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DECISION SUPPORT FUNCTIONS FOR THE RETAIL OPERATIONS

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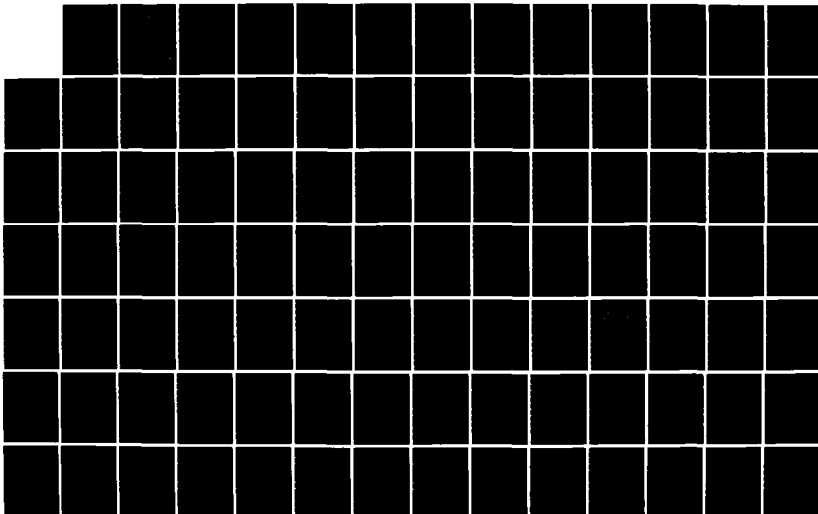
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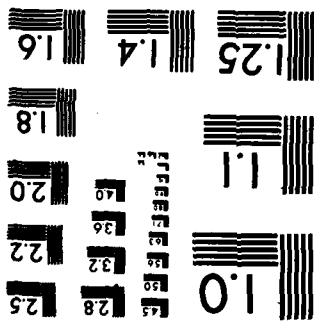
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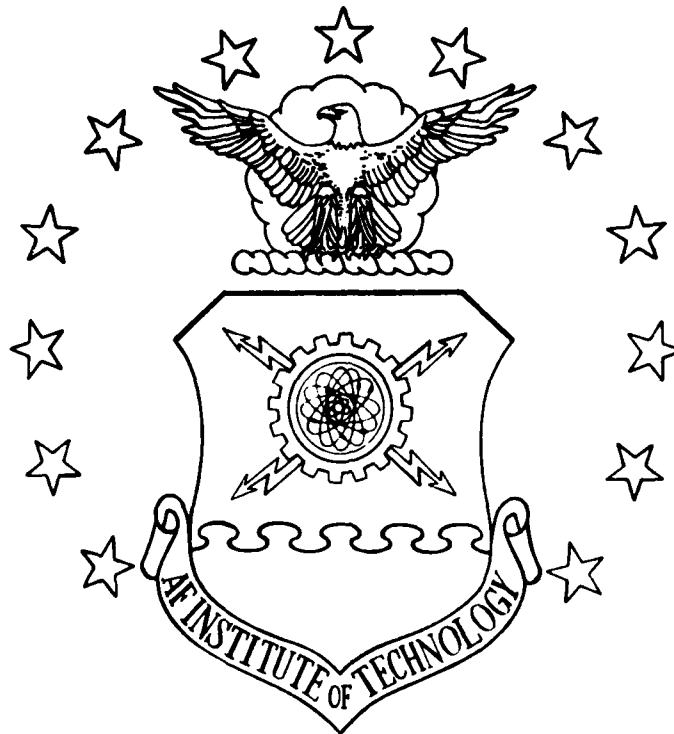
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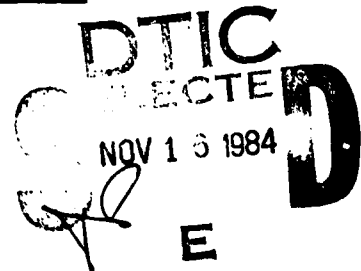
DECISION SUPPORT FUNCTIONS FOR THE  
RETAIL OPERATIONS MANAGEMENT SYSTEM

THESIS

James L. Mitchell  
Lieutenant, SC, USN

AFIT/GLM/LSM/84S-47

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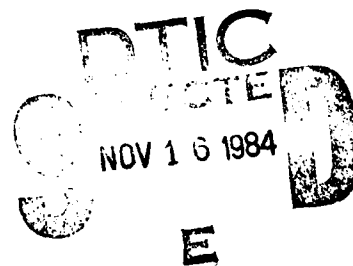
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**DECISION SUPPORT FUNCTIONS FOR THE  
RETAIL OPERATIONS MANAGEMENT SYSTEM**

**THESIS**

**Presented to the Faculty of the School of Systems and Logistics  
of the Air Force Institute of Technology  
Air University  
In Partial Fulfillment of the  
Requirements for the Degree of  
Master of Science in Logistics Management**

**James L. Mitchell, B.S.  
Lieutenant, SC, USN**

**September 1984**

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### Acknowledgement

When Lieutenant (junior grade) Edward W. Pinion reported for duty as Ships Store Officer aboard *USS Constellation* (CV 64) in January 1975, the retail operation had an average stock turn of only 0.35. Frustrated by the laborious manual calculations required to properly manage the inventory, he soon developed an automated Ships Store Management System. At the end of each accounting period, data was manually recorded from the Stock Record Cards, keypunched, and run through the ship's computer to produce a comprehensive stock listing, printed in sequence by urgency of reorder action. This once-a-period report listed the number of months' supply on hand for each stock item to identify excess merchandise, and also forecasted reorder quantities and dates. The value of this system was reflected in the ship's stock turn, which rose to 1.5 by March 1976 when LTJG Pinion detached.

I first met LTJG Pinion at the Navy Supply Corps School where he was my Retail Operations instructor. Seven years later, LCDR Pinion was again my instructor, this time at the Air Force Institute of Technology. In his role as thesis advisor, he guided my research towards the Navy's automation efforts in retail operations afloat. As the study progressed, it became apparent that the decision support functions he had developed nine years earlier could be expanded and incorporated into the current Retail Operations Management System to

significantly enhance its capabilities. Consequently, those original algorithms were dusted off to become the foundation of this thesis.

I am deeply indebted to LCDR Pinion, not only for the ideas on which this thesis is based, but also for his advice, encouragement, and friendship during its preparation.

James L. Mitchell

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Abstract

The Retail Operations Management (ROM) System is an interactive computer program designed to automate the records-keeping and report generation functions associated with ships stores afloat. This thesis project was an effort to (1) identify decision support functions and other tasks that could be performed by the ROM System; (2) develop algorithms to execute these functions within the constraints of the existing database and operating environment; and (3), document these new features in a format designed to facilitate their programming and implementation. The resulting system enhancements include computation of future demand, stock limits, and reorder quantities, and automated preparation of purchase orders, excess stock lists, and comprehensive management reports. These new functions were documented as a Program Specification in compliance with Department of Defense standards, and as formal changes to the *Retail Operations Management System Handbook* and *User's Guide*. Incorporation of these functions into the ROM System during the on-going conversion from Wang VS-80 to Zenith Z-100 hardware is recommended. The future impact of point-of-sale inventory control, optical bar code scanning, and electronic funds transfer on shipboard retail operations is discussed.



# DECISION SUPPORT FUNCTIONS FOR THE RETAIL OPERATIONS MANAGEMENT SYSTEM

## I. Introduction

### Retail Operations Automation

Retail operations aboard United States Navy ships has become big business. The 344 ships operating ships stores in 1983 reported annual sales of more than \$123 million, generating over \$16.5 million in gross profit. Of that figure, \$10.5 million was retained by the Welfare and Recreation Funds aboard those ships, \$4.5 million was transferred through the Naval Military Personnel Command to support other ships and shore stations without ships stores, and the remainder covered the operating costs of providing free laundry and barbering services to the crews of each ship (26).

Despite this large sales volume, all shipboard retail operations recordskeeping is performed manually. Even aboard an aircraft carrier stocking over a thousand line items, operating as many as six separate stores, and generating over \$4 million in sales each year, all files, records, and reports are prepared by hand. And because retail operations is an accountable area involving cash and highly pilferable material,

extensive documentation is required. For example, transferring a single item of merchandise from the bulk storeroom to a retail outlet requires a NAVSUP Form 973 prepared in quadruplicate, signed by three accountable individuals, and retained in four separate files. The administrative burden imposed by this manual system has grown with inventory levels and sales volume. Fleet inspections have revealed corresponding increases in procedural problems, particularly in the area of inventory management, cash collection, erratic profits, training, and lack of daily management overview (4).

The increasing capability and decreasing cost of computers have made the concept of retail operations automation entirely feasible. Such highly structured and repetitive recordskeeping functions are well suited to automated data processing as has been clearly demonstrated by the rapid computerization of the commercial retail industry. The Navy recognized four potential benefits offered by automation. First, accuracy of records and returns could be greatly improved through elimination of simple arithmetic, clerical, and procedural errors. Second, the preparation and submission of required documentation and reports could be simplified and expedited. Third, through access to more accurate and timely information, management control and accountability, particularly at the shipboard level, could be greatly enhanced. And finally, automation could reduce the administrative burden on the fleet, thereby contributing to morale, and reducing the impact of projected manpower shortages in the Ships Serviceman rating.

### The Retail Operations Management System

The Retail Operations Management (ROM) System was developed under a Navy contract by Ingalls Shipbuilding in conjunction with their construction of the four KIDD-class destroyers. The ROM system was one of four application programs written to operate on the ships' nonstandard minicomputer systems. Following a successful demonstration aboard the USS KIDD (DDG 993) on 6 February 1984, the ROM system was certified for use by those ships equipped with similar computer systems (6). The ROM software is now being adapted to run on an interim microcomputer system aboard all ships with ships stores.

The ROM system represents a quantum improvement in efficiency over current manual procedures. During the four-month evaluation period aboard USS KIDD, manhours devoted to document preparation, transaction posting, and record closeout functions were reduced from 167 to 37 hours (78%), with a concurrent improvement in mathematical accuracy. The system was found to be simple to operate and user friendly, with minimal training requirements and adequate security safeguards (23).

However, the ROM system has one serious deficiency: it provides only limited management information to the Sales Officer. Keen and Morton (12:58,97) define decision support systems as "computer-based support for management

decisionmakers who are dealing with semi-structured problems." Such support may be provided at levels ranging from simple data retrieval from a database, through data sorting, comparison, and computation, all the way to complex mathematical modeling. Yet by definition, semi-structured problems can be only partially automated, and thus require the application of human judgment and reasoning for effective resolution. Decision support systems are intended to support and enhance the effectiveness of the decisionmaker, not to replace him.

The RDM System programmers understood their task to be the exact emulation of the manual ships store administrative process prescribed by *Ship's Store Afloat* (25). The result was a highly efficient data processing system with few decision support functions. The system offers the Sales Officer minimal database query capability, and no means of extracting and manipulating data to produce useful management information. To make most inventory management decisions, for example, he still must review individual stock record cards, perform repetitious manual calculations, and apply his professional judgement in each specific situation. The only real difference is that he now has the choice of viewing the data on either a terminal screen or a printout, and has increased confidence in the accuracy of the figures displayed.

The Sales Officer aboard ship is typically a newly commissioned officer with no previous management experience. In addition to his accountability for retail operations, he often serves concurrently as Disbursing Officer, is responsible

for a division of men, performs several collateral duties, and stands shipboard watches. Given the demands on his time, the variability of the ship's schedule, and his lack of experience, it is not surprising that fleet inspections note lack of management overview as a recurring problem in retail operations. The RDM system reduces the workload of the ship's store recordskeeper, and decreases audit requirements to some degree, but the Sales Officer is still faced with making decisions based on inadequate information; the data is available in the system, but there is seldom enough time to compile it into a usable format. Record accuracy, report timeliness, and operational efficiency are significantly improved by the RDM system. With the addition of certain decision support functions, similar advances could be realized in inventory control, sales, and profitability.

### Background

The size, cost, and maintenance requirements of early computer systems restricted their shipboard use to primary weapons systems. In 1965, the Navy procured an early second-generation computer system designated AN/UYK-5(V) to meet the data processing needs of the supply, administration, and maintenance departments on large ships such as aircraft carriers and tenders. However, the limited capacity and reliability of that system precluded the automation of most supply functions, including retail operations.

The implementation of automated information systems by shore-based commanders and fleet support activities during the last decade created a growing demand for data. Compliance with increased reporting requirements and new management programs placed a severe administrative burden on a fleet utilizing manual data collection procedures. The problem was exacerbated by fleet-wide personnel shortages, and construction of new ships with reduced manning levels.

SNAP I. The rapidly advancing computer industry provided the solution to the fleet's data processing overload by developing third-generation computers. By the mid-1970's, these systems had become compact, reliable, affordable, and extremely capable, encouraging the Navy to develop the Shipboard Non-tactical Automated Data Processing Program, or SNAP. SNAP I is the two-phased replacement of the large-ship AN/UYK-5(V) system with all-new hardware and software designed to meet current and future processing demands. Program planning began in 1974, and initial hardware installation is expected to be completed during fiscal year 1984. The project will provide 68 deployable units and seven shore sites with a standardized "set of ADPE that is modular, reliable and expandable to meet systems redesign and additional system requirements in an on-line, real-time, transaction-driven interactive environment [21]."

SNAP II. The SNAP II program is intended to provide a similar capability for all other ships and submarines in the fleet. The operational requirements for this system, developed

in 1976, include (1) very high reliability; (2) no additional shipboard manning for operation or maintenance; (3) a high degree of user friendliness through use of an interactive, menu-driven, forms-based environment with online entry validation, built-in test, and online diagnostic capabilities to minimize training requirements; (4) access security to safeguard information; and (5) a modular, expandable design to facilitate system installation and growth (19:1-4, 2-6-7, 4-2; 22:14). In addition, while the SNAP I and SNAP II hardware configurations would be completely different, it was specified that the functional requirements and user interfaces of the two systems would be identical to ensure "fully compatible and integrated automated support across all SNAP programs and systems, afloat and ashore [22:2]."

In March 1982, five years after the system requirements were defined, the Navy formally accepted the bid submitted by Systems Management American Corporation to supply the SNAP II hardware. Designated the AN/UYK-62(V), the system is built around a commercial Harris H300 super mini-computer ruggedized for shipboard use. Forty-eight systems were installed during fiscal year 1983, and Full Production Approval was authorized on 18 June 1984 following successful completion of the third system operational evaluation. In all, approximately 380 existing ships, 80 new construction ships, and ten training and fleet support activities ashore are scheduled to receive SNAP II (19:A-1-2).

Only four application software modules were developed for

delivery with the initial SNAP II installations; thirteen additional modules, including Retail Sales Management, were classified as future releases (18:2-10-11). The Navy Management Systems Support Office (NAVMASSO), as the designated Fleet Central Design Activity, has responsibility for the design, programming, implementation, and life cycle support of all SNAP I and II software (16:1). In that capacity, NAVMASSO published the functional specifications of the Retail Sales Management module in the *Integrated Functional Description for SNAP II SDS* (22) in 1981. However, under priorities established by the Naval Material Command, development of the Retail Sales Management module was not scheduled to begin until fiscal year 1985 (1).

Ship's Store Automation Modernization. At the direction of the Naval Supply Systems Command, the Navy Resale and Services Support Office (NAVRESSO), functional manager for all Navy retail operations afloat and ashore, began to study the feasibility of shipboard automation in 1980. For this purpose, the David W. Taylor Naval Ship Research and Development Center was commissioned to perform a three-phased study entitled *Ship's Stores Automation Modernization*. Phase I would analyze current retail operations procedures; Phase II would identify those functions offering the greatest potential benefit if automated; and Phase III would develop and test a prototype automated system. However, one year into the project, the Naval Supply Systems Command determined that independent development of a retail operations automation system outside



the SNAP environment was inappropriate. Therefore, at a meeting held 9 September 1981, and attended by personnel from the Naval Supply Systems Command, the David W. Taylor Naval Ship Research and Development Center, and NAVMASSO, the original objectives of the Ship's Store Automation Modernization project were changed. The Phase I study, which by that time was complete, would be published as written. Phases II and III were to be superseded by a single report presenting an updated functional description, and a list of automation data requirements, both in standardized format (27:1).

The Phase I report, published in May 1982, was based on information contained in *Ship's Store Afloat*, interviews with NAVRESSO personnel, and visits to three different ships. All retail operations procedures were categorized into eighteen general functional areas in the report, each presented in a uniform format which included a concise description, personnel responsibilities, required input information, and the output produced. The baseline procedural description was then compared with the actual procedures found in use aboard different ship classes, and all differences were described by function and class (2).

The Phase II report was printed as a technical memorandum in February 1983. It proposed extensive revisions to the original *Integrated Functional Description for SNAP II SDS* based on the findings of the unfinished initial Phase II study (3). The report also presented a data element dictionary in the standardized format prescribed by NAVSUP Publication 508,

**Supply Management Program Standard Data Element Dictionary.**

Included in the report were the comments and recommendations made by the Commanders-in-Chief of the U.S. Atlantic and Pacific Fleets in response to draft copies of the report (27).

**Interim Automation System.** Naval Sea Systems Command PMS-389, the Ships Acquisition Project Manager for the four KIDD-class destroyers, obtained authority in 1981 to equip the ships with interim automated data processing equipment. The Naval Material Command authorization letter directed PMS-389 and NAVMASSO to coordinate their efforts on the project, using prototype SNAP II software when feasible, in order to refine database construction and shipboard installation procedures (15). The Wang VS-80 super mini-computer with twelve remote terminals was the hardware selected on the basis of its capabilities, availability, user friendliness, and ease of programming. Also, at that time, most thought the Wang system would be selected as the SNAP II system hardware (1). Following a study of shipboard administrative tasks, PMS-389 determined that the four functional areas for which automation offered the greatest potential payoff were supply support, maintenance, foodservice, and retail operations, in that order. Ingalls Shipbuilding was then contracted to develop those application software modules.

**The ROM System.** Development of the Retail Operations Management (ROM) System began in September 1982. The programmers from Ingalls, working closely with NAVRESSO personnel, were instructed to create a system that would

automate the existing manual procedures exactly as specified in *Ship's Store Afloat*. Additionally, the ROM system had to be sufficiently flexible to handle retail operations ranging in size from frigate to aircraft carrier (25). Ten months later, when NAVRESSO determined that the system was ready for operational testing, USS KIDD (DDG 993) was designated the primary test ship. The system was implemented in August 1983, and evaluated in February 1984 during closeout of the first period records. The minor changes recommended during the evaluation were made within two weeks, and on 22 March 1984, the Naval Supply Systems Command formally certified the ROM system "as the only interim ROM subsystem until NAVMASSO assumes responsibility for a . . . subsystem within the context of SNAP I and SNAP II [6]."

Fleet Implementation. Representatives of the Naval Material Command, Naval Supply Systems Command, Navy Food Service Systems Office, and NAVRESSO met on 3 November 1983 to discuss ways to accelerate development and fleet implementation of SNAP application software for foodservice and retail operations. The group agreed that

the best way to implement the two systems appears to be to use microcomputers/intelligent terminals in the SNAP systems and to use to the maximum degree practicable software already developed through prototype efforts. All software will be developed and maintained under the auspices of NAVMASSO to ensure integrity with other SNAP functional subsystems [5].

Accordingly, the Naval Material Command began a study of SNAP-compatible microcomputers and intelligent terminals,

NAVMASBO was tasked to determine the feasibility of converting the RDM system to operate on SNAP hardware, and additional meetings were scheduled with the six type commanders and NAVMASBO to discuss future actions.

At a meeting of this group on 6 and 7 March 1984, the Zenith Z-100 series microcomputer was selected as the interim hardware for RDM system implementation. The primary criteria for selection of the Zenith system was its low cost; under an existing Air Force contract, Navy activities could purchase complete systems using simple delivery orders without exceeding the \$3,000 ceiling on Operations and Maintenance, Navy acquisition of end-item equipment. By avoiding the lengthy process required to obtain Other Procurement, Navy funds, the group agreed that fleet implementation could be greatly accelerated. Under this plan, the individual type commanders would be responsible for funding the hardware, implementing the RDM system, and supporting the training requirements aboard their ships. NAVMASBO was tasked to convert the existing RDM software to operate on the Zenith system, and to support that software once in use. The stand-alone Zenith/RDM system was to be strictly an interim solution to retail operations automation; the final solution would involve a standardized, SNAP compatible microcomputer or intelligent terminal, developed and maintained under the SNAP program (1;13).

## Scope

This study analyzes various aspects of retail operations afloat, including management objectives and environment, decision-making requirements and constraints, information flow and availability, and the opportunities created by automation. The RDM system is critically examined for deficiencies and for underutilized potential. The Sales Officer's management information needs are determined, and new means of producing and presenting that information within the RDM system environment are developed. An advanced shipboard retail operations system integrating point of sale inventory control, optical scanning, and electronic funds transfer is briefly described as the logical extension of current automation initiatives.

The proposed RDM System decision support functions require relatively simple software modifications with low risk and large potential benefits. These enhancements are documented in the Department of Defense standard format used by the Navy in order to facilitate implementation; the actual programming, however, is left to NAVMASSO. Similarly, hardware issues are not addressed, other than in the general descriptions of the future RDM System. Finally, and most importantly, all proposed RDM System modifications are in strict compliance with the procedures and standards set forth by NAVRESSO in *Ship's Store Afloat*. While that publication will surely evolve to take

fullest advantage of the potential offered by the new automated data processing equipment, it serves now as a reassuring constant during the imminent transition from manual to automated systems.

### Objectives

The primary goal of this study is to develop decision support functions that, when incorporated into the ROM system, will produce timely management information for the Sales Officer, thereby enhancing his decisionmaking effectiveness, and increasing the profitability and efficiency of the retail operation. In order to achieve this goal, the following objectives were established:

1. Define the judgmental decisions that the Sales Officer is required to make under the ROM System, analyzing the environment and constraints under which each is made.
2. Determine the information required to make each of those decisions correctly, without regard to the availability of that information.
3. Develop algorithms that effectively produce as much of the required decision support information as possible within the limitations of the ROM system.
4. Document the proposed ROM system decision support functions in the standardized, NAVMASSO-prescribed format to facilitate programming and implementation.

5. Document all ROM System procedural changes in a format consistent with the current ROM System operating manuals.
6. Describe an advanced shipboard retail operations system that integrates point of sale inventory control, optical scanning, and electronic funds transfer, and address the decision support opportunities created by such a system.

## **II. Methodology**

### **Sales Officer Decisions**

The first step in the development of an effective decision support system is to describe the decision process, and identify those semistructured decisions that could most benefit from such support (12:186). The *Ship's Stores Automation Modernization (SSAM) Phase I Report* (2) provides a concise functional description of the manual retail operations system, including data inputs and outputs, periodicity, task interrelationships, and personnel responsibilities. *Ship's Store Afloat* (20) and the *Ships Store Afloat Handbook* (24) describe in detail all the mandatory operating procedures and restrictions governing retail operations afloat. All three of these publications were thoroughly reviewed in order to define the baseline manual system. During this review process, a list was compiled of all the judgmental decisions required to be made by the Sales Officer under this system.

### **Sales Officer Information Requirements**

The degree of judgment the Sales Officer must apply in making each decision is a function of information availability and accuracy. Given perfect information, any decision process



can be automated, thus eliminating the need for human judgment. Each of the Sales Officer's decisions was analyzed to determine the degree of judgment it required, and to identify the information needed to produce a correct decision. The resulting list of information requirements operationally defined "perfect information," and became the design goal for the development of the decision support functions.

### RDM System Analysis

The *Retail Operations Management System User's Guide* (10) was then analyzed to determine how much of the information required by the Sales Officer was available within the RDM System. Concurrently, an abbreviated data element dictionary was compiled listing the data comprising the RDM database. This list represented an initial data constraint for decision support function development. The RDM System programmer had confirmed that additional functions utilizing data from the existing database could be written into the system quite easily; however, modification of the database itself to include additional data elements would be somewhat more involved (25). For that reason, every effort was made to develop the proposed decision support functions using the data available in the original RDM System database, adding as few new data fields as possible.

### Decision Support Algorithms

The majority of the Sales Officer's judgmental decisions involve inventory management. Although many of the relationships between inventory variables such as demand, stock levels, and reorder points are clearly defined in *Ship's Store Afloat*, and can be expressed mathematically, others are quite vague, and can only be estimated based on judgment and experience. The challenge became to develop algorithms that would accurately produce the information required by the Sales Officer within the constraints of the ROM database. In those situations where necessary data was unavailable and could not be reliably estimated, discretionary variables were introduced, allowing the Sales Officer to assign values based on his professional judgment or knowledge of current information such as the ship's schedule.

### Documentation

NAVMASBO, as the Fleet Central Design Activity, prepares all system documentation in accordance with DOD-STD-7935, *Automated Data Systems (ADS) Documentation* (8). The ROM System, however, was developed by Ingalls Shipbuilding to commercial standards, and it is not expected that NAVMASBO will delay conversion and fleet implementation of the system to rewrite the original documentation to meet Navy standards. Eventually

the conversion to DOD-STD-7935 standards will be accomplished, most likely in conjunction with the planned transition to SNAP compatible microcomputers, in order to ensure integration with the body of standardized SNAP documentation.

A review of DOD-STD-7935 indicated that those extensive documentation requirements are intended for the development of new automated data systems rather than for proposed software enhancements. The Naval Material Command instruction detailing project control procedures for submission of proposed software changes (17) was found to present minimal format guidance, concentrating primarily on procedures to report software errors. In order to simplify programming, and to ensure that all required information was provided, NAVMASSO's recommendation to document the RDM system decision support functions in accordance with the DOD-STD-7935 standards was accepted (1). The Program Specification was determined to be the format best suited to this project. However, only the enhancements, not the basic RDM System were documented, and those sections addressing hardware and programming specifications considered beyond the scope of this study were deleted. This abbreviated Program Specification is contained in Appendix A.

While the Program Specification would meet the needs of the system programmers, user manuals would be necessary to teach fleet personnel how to use the new functions. The existing *Retail Operations Management System Handbook* (9) and *Retail Operations Management System User's Guide* (10) were very

well written, conforming in substance if not in specific format to DOD-STD-7935. Based on the expectation that they will be retained in their present form during the service life of the interim Zenith/RDM System, the decision was made to document the system enhancements as changes to those manuals. Appendix B contains the changes to the Handbook, and Appendix C the changes to the User's Guide. The new and replacement pages included are printed in formats consistent with the original manuals into which they are to be entered.

#### The Future RDM System

The general description of a future RDM System integrating point of sale inventory control, optical scanning equipment, and electronic funds transfer capability was based on interviews with knowledgeable, farsighted naval officers involved in this field. The additional data produced by such an advanced system was identified and compared with the list of Sales Officer "perfect information" requirements. Given the increased quantity and improved timeliness of the data generated by this system, new and more powerful decision support functions are briefly discussed.

### III. Analysis

#### ROM System Judgmental Decisions

The ROM System effectively automates the recordskeeping and report generation functions of ships store afloat. However, the system still requires the Sales Officer to make numerous judgmental decisions, the quality and timeliness of which determine the performance of the ships store as measured by profitability and service to the crew. Analysis of *Ship's Store Afloat* (20) and the ROM System operating manuals (9;10) identified seven functions requiring the Sales Officer to make specific judgmental entries. The most complex and unstructured of these decisions demand the professional knowledge and reasoning power of the Sales Officer. But the majority are at least semi-structured and quantifiable; through application of simple algorithms and decision rules, the ROM System could be programmed to produce adequate, if not optimal, solutions. A discussion of the seven functional areas follows.

Historical Demand. Also known as sales history or usage rate, the historical demand for an item is calculated with the following equation:

$$\begin{array}{rcll} \text{Historical} & \text{Beginning} & & \text{Ending} \\ \text{Demand} & = & \text{Inventory} + \text{Receipts} - \text{Expenditures} - & \text{Inventory} \end{array}$$

Since this formula requires an ending inventory balance, it can be applied only after completion of an itemized physical inventory, generally conducted at the end of each four-month accounting period. The RDM System automatically performs this calculation for every stock item as part of the records close-out process, posting the period sales or usage rate to each Stock Record Master. This demand data is retained in the database for three periods, and can be accessed by printing an Inventory Management Report. This report, the only true decision support information produced by the RDM System, displays the sales figures from each of the preceding three periods, total annual sales, and the number of months stock available for each item based on the average monthly demand from the most recent period and from the previous year.

Historical demand is a critically important figure in retail operations because, as a measure of consumer preference and demand, it can be used to forecast future demand, to set stock inventory limits, to determine order quantities, to identify excess stock, and to make decisions concerning adding and deleting items from stock. However, demand for an item is directly influenced by a number of situational factors that should be identified and interpreted before the figure is applied in other calculations. One important factor is the number of men aboard the ship during the demand period. Particularly aboard aircraft carriers and amphibious assault ships, crew size more than doubles as the air wing or Marines embark. The positive linear relationship between crew size and

sales is recognized by the formulas which base inventory value limitations on the total number of personnel on board (20:1171).

A second major factor is the ship's operating tempo. When the ship is in port, the ships store is competing with the Navy Exchange and local merchants. In foreign ports, the competition for the sailor's dollar is even more intense. But at sea, the crew is a captive market, and sales increase significantly. Although this factor is also influenced by the desirability of liberty ports, the duration of port calls, and the timing of paydays, the number of days under way is the simplest and probably the most accurate measure of the effect of operational tempo on demand.

Stockouts are another significant factor. When an item is not in the ships store available for sale during the entire period, historical demand for the item will be understated. This influence will often occur with new stock items procured midway through the period, but can also result from failures to reorder stock or replenish the store from the bulk storeroom in a timely manner. Conversely, price markdowns, whether applied to move slow-selling merchandise or to dispose of damaged or shopworn stock, will cause demand for the item to be overstated. Finally, demand for many items is seasonal, climate-, or holiday-related, such as uniforms, suntan lotion, and Christmas cards. Historical demand for such items will fluctuate widely by period.

Although the RDM System does record monthly crew size and

the ship's operational status (CONUS or Deployed) in order to compute the inventory value limitation for the Inventory Control Record, this information is not linked to the historical demand figures for the period. Similarly, the system does not account for stockouts, markdowns, or seasonality.

Basic Stock and Deployed Load Items. Each ship is required to develop and maintain a list of basic stock items, the most popular and essential ships store merchandise that must be stocked at all times. The list usually includes most of the items available from the Mobile Logistic Support Force ships and Naval Supply Depots as identified in the *Consolidated Afloat Requisitioning Guide Overseas (CARBO)* (NAVSUP P-4998) (20:1185). It also includes stock items with high crew demand, and those items designated by the Captain, Executive Officer, or Supply Officer as "never-out." The value of this list is that it permits management attention to be focused on the most important items; incidentally, it also defines the minimum acceptable ships store service level. Obviously, adding items to the list dilutes management effort, and raises the minimum service level.

*Ship's Store Afloat* defines deployed load items as "those items, generally of low weight, cube, and monetary value, not available from mobile support units outside the United States that are loaded by the ship to last for the duration of the deployment [20:1185.3]." The definition also implies non-perishability, and a consistently high historical demand.



Since deployed load items are not specifically excluded from basic stock item status, a valid classification scheme would group selected CARBO items and deployed load items together to comprise the Basic Stock Item List. The ROM System identifies CARBO items by including the last four digits of the CARBO number on the Stock Record Master; there is no identification scheme for other basic stock or deployed load items.

Demand Forecasting. Forecasting future demand for each item is most often performed in conjunction with predeployment planning, and when procuring new stock items. Necessarily, historical demand serves as the basis for almost all demand forecasts. During periods of local operations, stock limits and order quantities based directly on recent historical demand are usually effective since crew size, operational tempo, and demand are relatively stable, and resupply is just a telephone call away. But in planning for a five- to eight-month deployment, there are no prescribed procedures to forecast demand. The *Merchandising and Stocking Guide for Ships Store* (NAVRES80 Publication 81) presents a sample stock plan based on fleetwide historical demand that is particularly useful in forecasting demand for new items. The *Ships Store Afloat Handbook* recommends that future demand be based on a review of past sales history, taking into account such factors as crew size, operational schedule, seasonality and climate, storage limitations, and inventory range and depth (24:27-28). The Sales Officer is essentially advised to use his best judgment.

The ROM System does not forecast demand; historical

demand, on-hand and on-order balances, and the high and low limits for each item are printed in the Inventory Management Report, but the Sales Officer must manually manipulate that data before he can enter revised stock limits and order quantities. Because individually screening each of between 500 and 1,000 stock items to set deployment stock limits would require so much time, the Sales Officer often applies a simple heuristic to facilitate the task. This decision rule is often nothing more than multiplying CONUS stock limits by an arbitrarily chosen whole number and rounding to the nearest case lot. Given the range of sophisticated computer-based forecasting techniques in use today, decision support is certainly feasible in this functional area.

High and Low Limits. Stock limits based on historical or forecasted demand are used to determine when and how much of each item to reorder. The *Ships Store Afloat Handbook* states that there is no prescribed method for setting these limits, but recommends the following formulas for high-demand items:

Low Limit = 30 Days' Supply + Delivery Lead Time

High Limit = 90 Days' Supply + Delivery Lead Time

Calculating these stock limits involves dividing the historical or forecast demand for each item by 120 days to obtain daily demand, multiplying that figure by the number of days' supply required, and again by the delivery lead time in days, and then summing the products. This process must be performed for all

stock items before and after each deployment, as well as at the end of each period.

The ROM System permits the Sales Officer to enter and change the high and low limits for each item on individual Stock Record Masters, but these figures must be calculated manually. Once entered into the system, the limits are then displayed on individual Stock Record Masters, the Stock Record Master List, and on the Inventory Management Report; they are not, however, used in any system computations, and so do not have to be updated or even entered for the ROM System to operate. These simple but tedious calculations are vital to intelligent stock control, and are a logical candidate for ROM System automation. The system already computes historical demand, and could be programmed to forecast future demand. With the entry of order and shipping time (O&ST) for individual or categories of items, the system could compute new stock limits automatically at regular intervals.

Order Quantities. When the on-hand balance of a stock item approaches the low limit, it is time to reorder the item. The *Ships Store Afloat Handbook* does prescribe a formula to determine reorder quantities:

$$\begin{array}{lclclcl} \text{Reorder} & & \text{High} & & \text{Current Bulkroom} & & \text{Outstanding} \\ \text{Quantity} & = & \text{Limit} & - & \text{Inventory Balance} & - & \text{Orders} \end{array}$$

Immediately following physical inventory and period closeout, the Total Balance figure from the Stock Record Master reflects

the actual on-hand quantity, and should be substituted for the Bulkroom Balance in the above equation for greater accuracy. Using the Bulkroom Balance figure throughout the rest of the period is necessary in order to reflect approximate usage, but for certain luxury and small-cube items that are stored primarily in the retail outlet, the formula consistently overstates reorder quantities.

The ROM System displays both stock limits, bulkroom and total balances, and outstanding order quantities on the Stock Record Master List and on the Inventory Management Report. Reorder quantities must be manually calculated using that data and the formula above, the quantities rounded to whole-case lots when appropriate, and the final stock numbers and quantities entered into the ROM System Requisition and Purchase Order function. Clearly the system is capable of comparing the sum of Bulkroom Balance and Outstanding Orders with the item Low Limit, computing the proper reorder quantity, and rounding that figure to the nearest case lot size.

Stocking New Items. Selection of new items of ships store stock is a highly judgmental and unstructured decision. When considering a product presented by a salesman, the Sales Officer must first confirm that the item is authorized for stock by consulting the Ships Store Afloat Catalog, contract bulletins, or the *Ship's Store Afloat* list of authorized stock. The Sales Officer must then consult the authorized stock list for the maximum number of line items allowed. If the store already stocks the maximum number of that item group,

procurement of the new item would require discontinuance of a currently stocked item. Before making this decision, the Sales Officer must predict the demand for the new item based on such factors as (1) demand for similar items, (2) number of similar, competing items, (3) CARGO availability, (4) quantities shown in the NRS Publication 81 model stock plan, (5) recommendations of other sales officers, and (6) item cost, cube, perishability, seasonality, flammability, and return policy. Then, if forecasted demand for the new item exceeds the historical demand for a similar item, it should be procured in limited, trial quantities until actual crew demand is confirmed.

Although sound inventory practice dictates that the range of stock items be limited to manageable levels, it is essential that new items be continuously added to the inventory in order to stimulate sales and satisfy changing demand. The decision process described above achieves both objectives by forcing the one-for-one discontinuance of low-demand items as new stock items are added. Under the ROM System, the Sales Officer can use the Inventory Management Report to check the current range of stock, and the historical demand for each item. However, given the complex and unstructured nature of this decision, there is little more information that the ROM System can provide to support the Sales Officer's decision.

Excess Stock. Ship's Store Afloat prescribes a 90-day supply as the maximum stock level for all merchandise except deployed load items which may be stocked to last for the

duration of a deployment. The Sales Officer is required to conduct a monthly stock review to determine reorder quantities, and to identify items considered in excess. Excess stock is most often the result of overstated demand forecasts, but can also be caused by changing styles and tastes, market saturation, ship's schedule changes, unplanned debarkations, and merchandise exceeding shelf-life, getting broken, or becoming shopworn. Because so large a percentage of ships store stock is perishable or subject to demand trends, it is important that excess stock be identified as soon as possible to permit prompt disposition action.

The following methods of disposing of excess stock are listed in order of preference:

- Markdown to cost to stimulate sales.
- Return to the vendor for cash or credit refund.
- Transfer at cost to other ships or activities.
- Markdown below cost to stimulate sales.
- Markdown below cost and transfer to other ships.
- Survey and destroy.

There is no general rule to determine how much to mark down an item; the *Ships Store Afloat Handbook* recommends that the Sales Officer use his judgment and experience, learning by trial and error (24:36). To encourage transfers between ships, each sales officer is required to distribute an excess stock list, and to order stock from these lists in preference to other sources (20:1226).

The ROM System Inventory Management Report is an effective means of identifying excess stock. By computing the number of months supply available for each item based on the demand for both the previous period and the previous year, that merchandise in long supply is clearly highlighted for action. One drawback to this function is that, while it can be executed at any time during the period, it produces accurate information only after the period close-out since it bases its computations on the Total Balance figure from the Stock Record Master. Also, the historical demand figures used to compute months supply will not reflect the greatly increased demand during a deployment. This problem can be overcome by dividing the months figure by the multiple by which demand is expected to increase during the deployment.

#### Decision Support Algorithms

The Sales Officer must perform numerous manual calculations to produce the information needed to make intelligent inventory control decisions. While these calculations are relatively simple, the fact that they must be performed regularly for each of up to a thousand stock items can account for hundreds of manhours. As a consequence, they are not performed as often as they should be, to the detriment of inventory control. However, with most of the required data already in the ROM System, the data processing power of the

computer can be applied to the task. Freed from repetitious calculations, the Sales Officer can then devote his efforts to making informed, judgmental decisions. The following algorithms, once incorporated into the ROM System, will enable the system to manipulate the data, and the Sales Officer to apply his judgment selectively and more productively.

Stock Item Classification. The ROM System uses a one-letter Requisition Type Code to classify each stock item by its source of procurement. For purposes of inventory control, it is necessary to add two additional one character codes to further differentiate the stock for sorting and computations. The Item Code identifies basic stock items, deployed load items, new or trial items, and special order items. The second new code is the Special Inventory Code that distinguishes those stock items requiring special management attention. Assignment of these codes will require the Sales Officer's judgment, and is essential to the proper operation of most of the decision support functions described below.

Historical Demand. The ROM System already computes the historical demand for each stock item at the end of each accounting period based on the formula:

$$\begin{array}{lcl} \text{Historical} & & \text{Beginning} \\ \text{Demand} & = & \text{Inventory} + \text{Receipts} - \text{Expenditures} - \text{Ending} \\ & & & \text{Inventory} \end{array}$$

The system retains this information filed by period dates for one year. It is now required that two additional figures be



retained for each of the four months in each period:

Monthly Crew Size = Average Number of Personnel Aboard  
the Ship During the Month

Monthly Days Under Way = Actual Number of Days Under Way  
During the Month

These figures will be used to define the situational context of the historical demand figures by quantifying the two most significant determinants of demand.

No attempt has been made to record the number of stockout days in order to determine its effect on demand. Although this factor can be significant, the required manual data collection would be impractical. Also, given effective ROM System application, stockouts should be minimized. As for the understatement of historical demand for new stock items procured midway through a period, such items will be identified by Item Code and/or Special Inventory Code for management attention.

Forecast Demand. Forecasts of future demand will be based on historical demand data from one of the three previous periods. Since crew size and operational tempo are the two primary determinants of demand, the Sales Officer will be required to enter estimates of the average crew size (including embarked troops), and of the average number of under way days per month for the forecast period. This data will then be combined with the historical demand data as follows:

$$\text{Crew Factor} = \frac{\text{Forecast Period Average Crew Size}}{[\text{Total of 4 Historical Monthly Crew Sizes}] / 4.0}$$

$$\text{Operations Factor} = \frac{\text{Forecast Avg. Under Way Days Per Month} \times 4.0}{\text{Total of 4 Historical Monthly Days Under Way}}$$

$$\text{Forecast Demand} = \text{Ops Factor} \times [\text{Crew Factor} \times \text{Historical Demand}]$$

Crew size exerts a direct one-for-one influence on demand; if crew size doubles, demand will double. The Crew Factor, as the ratio of forecast to historical crew size, accurately quantifies this relationship. The effect of operational tempo on demand is direct and positive, but not necessarily linear. Because fleet data has never been collected and analyzed to determine the exact nature of the relationship, the ratio of forecast to historical days under way has been arbitrarily selected as simple and logical measure of the effect. An upcoming reprint to *Ship's Store Afloat* will require all ships to report days under way on their financial returns (14). This will permit NAVRESO to measure the exact impact of operational tempo on demand, and to revise this algorithm as necessary.

High and Low Limits. Since the purpose of stock limits is to determine the timing and quantities of reorders, it seems logical that such limits should be based on future rather than historical demand. This distinction is particularly important since stock limits are most often set in conjunction with the beginning and end of deployments when the difference between

historical and future demand is most pronounced. Once future demand has been forecasted, the system requires the entry of order and shipping time (O&ST) in days. Because the O&ST is variable depending on the ship's schedule and location, the Sales Officer will be required to apply his judgment in entering these figures for each of the five sources of ships store stock. Finally, after entry of the ship's current status (CONUS or Deployed), and the number of months deployment remaining, the system can apply the following formulas to compute the stock limits:

$$\text{Low Limit} = \frac{\text{Forecast Demand}}{4.0} + [ \text{O\&ST} \times \frac{\text{Forecast Demand}}{120.0} ]$$

$$\text{High Limit} = \frac{3.0 \times \text{FD}}{4.0} + [ \text{O\&ST} \times \frac{\text{FD}}{120.0} ]$$

Basic Stock Items (Item Code "B"):

$$\text{Low Limit} = \frac{\text{FD}}{2.0} + [ \text{O\&ST} \times \frac{\text{FD}}{120.0} ]$$

Special Order Items (Item Code "Z"):

$$\text{Low Limit} = 0 \qquad \text{High Limit} = 0$$

Stock limits are computed differently for certain categories of merchandise depending on the ship's operational status. These exceptional cases are computed as follows:

CONUS:

Deployed Load Items (Item Code "D"):

$$\text{Low Limit} = \frac{\text{FD}}{2.0} + \left[ \text{O\&ST} \times \frac{\text{FD}}{120.0} \right]$$

Foreign Merchandise (Requisition Type Code "F"):

$$\text{Low Limit} = 0 \qquad \text{High Limit} = 0$$

DEPLOYED:

Deployed Load Items (Item Code "D"):

$$\text{Low Limit} = 0$$

$$\text{High Limit} = \frac{\text{FD}}{4.0} \times \text{Months Deployment Remaining}$$

Foreign Merchandise (Requisition Type Code "F"):

$$\text{Low Limit} = \text{O\&ST} \times \frac{\text{FD}}{120.0} \qquad \text{High Limit} = \frac{3.0 \times \text{FD}}{4.0}$$

Foreign Merchandise (Requisition Type Code "F")  
When Months Deployment Remaining  $\leq 3$ :

$$\text{Low Limit} = \text{O\&ST} \times \frac{\text{FD}}{120.0}$$

$$\text{High Limit} = \frac{\text{Months Deployment Remaining}}{4.0} \times \text{FD} - \left[ \text{O\&ST} \times \frac{\text{FD}}{120.0} \right]$$

Because the Forecast Demand figure reflects demand for an entire four-month period, dividing it by four produces monthly demand, and by 120, daily demand. Thus, the low limit for most stock items is one month's supply as safety stock, plus enough more to meet demand during the procurement lead time. Safety stock is doubled to a two month supply for both basic stock items and deployed load items (in CONUS) to ensure their "never out" status. The standard high limit is three months' supply plus the procurement lead time demand quantity. Special order items are never stocked, and foreign merchandise only while deployed.

The high limit for deployed load items is sufficient to meet demand through the duration of the deployment since resupply overseas is not possible; accordingly, the low limit is set to zero. Foreign merchandise requires special inventory controls because it generally consists of high-cost luxury items with no demand history on which to accurately forecast sales. Order quantities, and hence the high limit for this stock, is limited to three months' supply. The low limit has been set to meet procurement lead time demand quantities only. During the last three months of the deployment, the low limit is set to the procurement lead time quantity, and the high limit to demand for the remainder of the deployment less the procurement lead time quantity. This procedure will reduce the quantities of excess foreign stock to be disposed of as the deployment ends.

Order Quantities. The Sales Officer must have a choice of two reorder criteria: ordering all items up to their high limits, or ordering just those items whose on-hand balances are less than or equal to their low limits. Generally the decision to bring all stock up to high limits is only made just prior to a deployment. Whichever criteria is selected, the Sales Officer must also choose the basis for determining the on-hand balances. Immediately following a period close-out, the Total Balance figure from the Stock Record Master will reflect the actual on-hand balance, and will produce the most accurate order quantities. However, since only the Bulkroom Balance figure reflects usage, it must be used in computations throughout each period. This figure will usually produce acceptable results, especially for fast-moving items. But those items stored in the retail outlet instead of the bulkroom will consistently be ordered in excessive quantities by using the Bulkroom Balance, and so must be identified by Special Inventory Code to permit individual reorder decisions.

The retail and purchase units of measure for most stock items are the same. But for those that are different, it is necessary to convert the stock limits and balances from retail to purchase units of measure so that reorder quantities will be expressed in purchase units. Although the ratio of retail to purchase units is not explicitly included in the Stock Record Masters, whenever the receipt of a new item is posted, the cost price per retail unit is computed as follows:

$$\text{Number of Retail Units Per Purchase Unit} = \frac{\text{Quantity Received in Retail Units}}{\text{Quantity Received in Purchase Units}}$$

$$\text{Cost per Retail Unit} = \frac{\text{Cost per Purchase Unit}}{\text{Number of Retail Units per Purchase Unit}}$$

So, for internal calculations, the RDM System can compute a Unit Ratio by reversing the above equation for each item:

$$\text{Unit Ratio} = \frac{\text{Cost per Purchase Unit}}{\text{Cost per Retail Unit}}$$

One final data element that must be added to each Stock Record Master before computation of reorder quantities is the Quantity per Case, which may be defined as either the minimum order quantity of each item, or the number of purchase units contained in the most conveniently-sized package. With this data available, reorder quantities can be computed with the following formulas:

$$\text{Stock} = \frac{\text{Bulkroom Balance}}{\text{Unit Ratio}} + \text{Outstanding Orders}$$

OR

$$\text{Stock} = \frac{\text{Total Balance}}{\text{Unit Ratio}} + \text{Outstanding Orders}$$

$$\text{If: Stock} \leq \frac{\text{Low Limit}}{\text{Unit Ratio}}$$

OR

$$\text{If: Stock} < \frac{\text{High Limit}}{\text{Unit Ratio}}$$

$$\text{Order Quantity in Purchase Units} = \frac{\text{High Limit}}{\text{Unit Ratio}} - \text{Stock}$$

$$\text{Order Quantity in Purchase Units and Case Multiples} = \frac{\text{Order Quantity}}{\text{Qty Per Case}} \times \text{Qty Per Case}$$

"Stock" is the current stock position, computed by summing either the Bulkroom or Total Balance figure with the outstanding order quantity. This total is then compared with either the high or the low limit to determine if reorder is required. If so, the reorder quantity is obtained by subtracting the Stock figure from the high limit. Then, in order to round that number to the nearest full case lot, the order quantity is divided by the quantity of purchase units per case, rounded to the nearest whole number of cases, and then multiplied by the number of units per case to produce an order quantity in an even case lot multiple.

Excess Stock. The ROM System Inventory Management Report, while a valuable management tool, has several limitations as a means of identifying excess stock. First, it measures stock levels on the basis of historical rather than forecasted



demand. Second, because it computes stock level using Total Balance, its results are valid only after period close-out. And third, the report lists the entire inventory, thus requiring the Sales Officer to screen all items to find those actually in excess. To correct these shortcomings, the following equations will be applied to produce a superior Excess Stock List:

$$\text{Forecast Demand} = \text{Ops Factor} \times \text{Crew Factor} \times \text{Historical Demand}$$

$$\text{Monthly Forecast Demand} = \frac{\text{Forecast Demand} / \text{Unit Ratio}}{4.0}$$

$$\text{Authorized Stock} = \text{Monthly Forecast Demand} \times \text{Number Months}$$

$$\text{Stock} = \frac{\text{Total Balance}}{\text{Unit Ratio}} + \text{Outstanding Orders}$$

OR

$$\text{Stock} = \frac{\text{Bulkroom Balance}}{\text{Unit Ratio}} + \text{Outstanding Orders}$$

$$\text{Months Supply} = \frac{\text{Stock}}{\text{Monthly Forecast Demand}}$$

$$\text{Excess Quantity} = \text{Stock} - \text{Authorized Stock}$$

$$\text{Excess Value} = \text{Excess Quantity} \times \text{Cost per Purchase Unit}$$

The Forecast Demand figure is computed just as before, then is converted into purchase units and divided to obtain a monthly rate. Based on the number of months stock authorized as entered by the Sales Officer, the Authorized Stock level is computed. For deployed load items while in a deployed status, the number of months is set to the number of months deployment remaining. The current stock level is determined at the Sales Officer's option by adding either the Bulkroom or Total Balance to the Outstanding Order quantity. Dividing this figure by Monthly Forecast Demand produces the number of months' supply available. The Excess Quantity is obtained by subtracting the Authorized Stock level from the Current Stock Level; multiplying that figure by the purchase cost per unit yields the Excess Value.

#### Decision Support Procedures

Decision support functions have been integrated throughout the ROM System in order to simplify and encourage their use. While this approach has required the modification of selected system menus and output formats, the number of such changes has been minimized. All new and modified screens and report formats are illustrated in Appendix C, and will be referenced here by screen number, menu title, or report title as appropriate.

Stock Record Masters. The Stock Record Master is the ROM System representation of the NAVSUP Form 464 Stock Record Card, and contains all the same information as well as the quantity on order, cost and retail price dates, CARBO stock number, a Requisition Type Code, and a storage location. This same screen is displayed in four modes: Add to enter a new stock item, Modify to change information previously entered, Delete to erase a Stock Record, and View, for use by personnel without authority to make entries or changes. Individual and specific categories of Stock Record Masters may be printed, or can be summarized on a Stock Record Master List printed in sequence by department, stock number, or alphabetically by stock description.

The Stock Record Master will be modified to include three additional data elements. The first is a single-letter Item Code, differentiating stock as follows:

B	Basic Stock Item
D	Deployed Load Item
T	Trial or New Item
Z	Special Order Item

While most items can be easily classified, the Sales Officer must subjectively determine basic stock and deployed load item status. Some stock items will not fall into any of the four categories, in which case the code may be left blank.

The Special Inventory Code is another one-letter code to

identify those items for which standard computation of demand, stock limits, and reorder quantities may not be accurate. This condition is most often the result of small, low-demand items being held in the store rather than in the bulk storeroom, which invalidates any computation relying on the Bulkroom Balance figure to reflect current on-hand stock. This code can also identify items that were not available for sale during the entire period, either because of stockout or the mid-period procurement of a new item. Finally, the code can be used to distinguish items whose demand was influenced by price markdowns. To simplify the use of this code, the Sales Officer needs only enter "X" if special procedures apply for any reason, and leave the code blank for all other items. Optionally, he may assign any other letter to an item to specifically identify the causal factor, for example "M" for a price markdown, or "S" for a stockout.

The third data field to be added to the Stock Record Master is the Quantity per Case. The RDM System already differentiates between purchase and retail units of measure, but the purchase unit of measure does not reflect the case lot sizes or the minimum order quantities imposed on some items. Even when not required by the vendor, it is often more convenient for the ship to procure stock in full case lots to simplify handling and inventory. Entry of this figure enables the system to round reorder quantities to even case lot multiples. When no figure is entered, the default value "1" is assigned.

Both the Stock Record Master and the Stock Record Master List printout formats have been modified to include the Requisition Type, Item, and Special Inventory Codes. Additionally, a Stock Record Master List of just those items with a specific Item Code can now be printed.

Vendor Numbers. The RDM System was designed to identify different sources of supply by use of three distinct numbering schemes. Each Navy ship and activity is assigned a unique Unit Identification Code (UIC) consisting of a one-letter service designator and a five-digit number. Vendors supplying merchandise under annual contracts listed in the contract bulletins can be identified by the last four digits of their contract number. There is currently a problem with the vendors listed in the Ships Store Afloat Catalog, however, in that not all of the more than 300 listings have a six-digit Vendor Code Number assigned. For each SSAC listing without a Vendor Code Number, the Sales Officer should assign a local three-digit number when first establishing the firm through the SSAC/Contract Vendor Maintenance function.

A six-digit data field has been added to each Stock Record Master to record the Vendor Number of the supplier from which the item is procured. The system will automatically update this field whenever a receipt is posted so that it will always contain the Vendor Number of the firm or activity from which the item was last received. This information will be displayed on each of the four Stock Record Master maintenance screens, and corresponding printouts.

Inventory Control Record. The Inventory Control Record can be computed and printed at any time during the period simply by entering the following information on Screen RD5100801: the date of the current month's last day, the ship's current status (CONUS or Deployed), and the number of men aboard for the month. This screen has now been modified to record one additional figure: the actual number of days under way during the current month. This data element is not required to compute the Inventory Control Record, which can still be printed at any time. Rather, both the monthly crew size and monthly days under way figures will be retained by the system as period descriptors, to be used in forecasting future demand. The function should be performed on or before the last working day of each month when the actual days under way figure is known. However, if any of the figures for a period are not entered, they will be requested by Screen RD1012801A when stock limits are computed.

High and Low Limits. The original ROM System made no provision for computing stock limits; the Sales Officer was just expected to enter appropriate high and low limits on each Stock Record Master. The first step in enabling the system to compute the limits was to add a new function to the Retail Operations Management Master Menu titled Set High and Low Limits. This function can be performed at any time, but at a minimum should be accomplished at the beginning of each accounting period, during predeployment loadout, and at the end of each deployment.

The function's first screen will display the inclusive dates of the previous three accounting periods in reverse chronological order. The Sales Officer must select that period on whose historical demand the future demand and stock limits will be based. This represents a critical judgmental decision requiring consideration of the many diverse factors that influenced the demand in each of those periods. The most recent period is the default selection because it most accurately measures current crew preference, but in those instances where operational tempo or seasonality were dominant factors, other periods should be chosen. When a period has been selected, the system then verifies that all the monthly crew size and days under way data has been entered. If any data is missing, Screen RD1020801A will be displayed requesting those two figures from the specific month and year. If data from more than one month is missing, the screen will be redisplayed until all required information has been entered.

The next screen collects data pertaining to the current period. Entry of the ship's status (CONUS or Deployed), and the number of months deployment remaining is straightforward. The Sales Officer must then estimate the average number of personnel that will be on board the ship through the end of the current period. While a simple calculation on most ships, for amphibious ships and aircraft carriers expecting major embarkations or debarkations, a weighted average should be applied. It must be remembered that this figure is to be calculated only from the current date through the end of the

current accounting period, not through the end of a deployment. The last figure to be entered on this screen is the estimated average number of under way days per month through the end of the period. Both this and the previous figure are used to forecast future demand, so it is imperative that the Sales Officer base his estimates on the best schedule information available.

Order and shipping time (O&ST) is entered on the following screen. Since delivery time naturally varies by source of supply, a different O&ST value may be entered for each of the five major Requisition Type Codes. For those items coded "D", meaning available through both contract bulletins and the CARBO, O&ST will be determined by the ship's status. While deployed, the CARBO value will be applied; otherwise the contract bulletin figure will be used. A default value of "1" is assigned when no entry is made.

The Sales Officer is next given the option of displaying the stock limit information in sequence either by department or stock number, and may further specify the range of departments or stock numbers to be processed. Thus, stock limits may be computed for select groups of items more frequently, or with different O&ST values.

Once all required information has been entered, the system computes forecasted demand and stock limits for each item specified. This information is displayed on the screen along with the description, Requisition Type, Item, and Special Inventory Codes, retail unit of measure, and three historical



demand figures. The Sales Officer can then review and change the high or low limits, taking into account any special factors, particularly those reflected in the Item and Special Inventory Codes. When he is satisfied with the new stock limits, he can post them to the Stock Record Masters automatically by pressing PF Key 3. He may also exit the function at any time without changing the previous stock limits.

Order Quantities. A new function, Compute Order Quantities, has been added to the Requisitions/Purchase Orders Menu. When selected, this function will first display a list of the five sources of supply corresponding to the Requisition Type Codes, and request selection of that category of stock items to be processed. Those items available from both the contract bulletins and the CARBO will be processed with either the CARBO or contract bulletin items, whichever is chosen. This step serves the purpose of standardizing the ordering procedure for the items being processed, thereby limiting the time required to process and review each batch. It also permits the Sales Officer to quickly prepare "top-off" orders when required by operational schedule. All items are processed in departmental sequence, so the next screen allows the Sales Officer to further define the batch to be computed by specifying a range of departments. He may also specify whether the items are displayed within each department by stock number or alphabetically by item description.

The Sales Officer must next determine how order quantities

are to be computed. The current on-hand balance for each item can be based on either Bulkroom or Total Balance. Bulkroom Balance is the default selection since it reflects approximate usage during the period; the Total Balance should be selected only at the beginning of a period following the posting of the physical inventory. Then the Sales Officer must select one of two order criteria. Before and during a deployment, ordering all items up to their high limit is a sound strategy for dealing with uncertain resupply. While operating in CONUS, however, it may be preferable to order up to high limit only those items whose on-hand balance is less than or equal to the low limit.

The system will next display the list of items in the requested sequence, including the descriptions, Requisition Type, Item, and Special Inventory Codes, purchase units of measure and costs, case lot quantities, Bulkroom and Total Balances, outstanding order quantities, stock limits, and the computed order quantities, rounded to full-case multiples. On this screen, all quantities are displayed in purchase units of measure to facilitate review. In addition, those items with Special Inventory Codes are clearly identified and listed after the other items. The Sales Officer can then review the computed order quantities, changing those that are, in his judgment, under- or over-stated. If not prepared to place orders immediately, he can choose to print the list as it then appears on the screen for further review. Should he later decide to order those items, he must then reenter that

information through the Requisition/Purchase Orders Menu to prepare the required documents. However, if satisfied with the order quantities displayed on the screen, the Sales Officer can direct the system to automatically prepare the necessary order documents.

When the system is directed to prepare order documents, it first screens the given list of items, discarding those with zero order quantities. Then, for CARSD and Navy Standard Stock items, the normal sequence of RDM System Requisitions screens will be displayed, starting with Screen RD2010801, requesting the requisition date and whether the merchandise is being procured from CARSD, Navy stock, or another ship. If from another ship, Screen RD2010802B will request the UIC of that ship, then transfer to Screen RD2010802 on which will automatically be displayed the stock numbers and order quantities previously computed. When these have been posted, Screen RD2010807 will appear with all the DD Form 1149 header information displayed for review prior to printing the requisition. CARSD numbers and computed order quantities will be displayed on Screen RD2010802A; Navy stock numbers and computed order quantities will be displayed on Screen RD2010802. The MILSTRIP Report screen will then request the required MILSTRIP data elements, and print a list of MILSTRIP requisitions from which a Naval message or hardcopy DD Form 1348's may be prepared.

Screen RD2000801 will record the requisition date and source of procurement for items to be procured with purchase

orders. Stock to be ordered from SSAC and contract bulletin vendors will automatically be sorted by Vendor Number, and the first number will be displayed on Screen R02000802A or B. The UIC of the overseas Navy Exchange from which foreign merchandise was last procured will be displayed on Screen R02000802D; in the case of the initial order from an overseas Exchange, the appropriate UIC should be entered or changed on that screen. The stock numbers and computed order quantities for the first vendor will then be automatically listed on Screen R02000803A, B, or C. After reviewing and posting these figures, the Sales Officer will review and, if necessary, correct the DD Form 1155 header information displayed automatically on Screens R02000807, 8, and 9. Finally, after printing the purchase order, the system will cycle back to Screen R02000802 A or B, displaying the Vendor Number of the next vendor on the list of computed order quantities to begin preparation of the next DD Form 1155. This process will be repeated until all the required items have been ordered, or until the Sales Officer exits the function.

Excess Stock. Two new functions have been added to the Retail Operations Reports Menu. Selection of the first, Excess Stock Lists, will display the Excess Stock Lists Menu which offers the Sales Officer the option of preparing an Excess Stock Management Report, Fleet Excess Stock List, or an Excess Stock List by Vendor. Whichever of the three is chosen, three consecutive information screens will be displayed for data entry. On the first screen, the Sales Officer must indicate

which of the previous three accounting periods on which to base future demand forecasts. For consistency, the period selected should be the same one on which the current stock limits were earlier computed. Next, the Sales Officer must define excess stock in terms of months' supply. For example, if "4" is entered, only those items with an on-hand plus on-order total greater than four months' forecasted demand will be listed. In order for this computation to be performed, the Sales Officer must also select whether the Bulkroom or Total Balance figure will be used as the on-hand figure; Total Balance should be used only after a physical inventory has been posted. The second information screen requests the ship's current status (CONUS or Deployed), the number of months deployment remaining, and the estimated average crew size and number of under way days per month through the end of the current period. On the final screen, the Sales Officer determines whether the report will be presented in department or stock number sequence, and can specify a particular range of items to be processed.

The Excess Stock Management Report displays the description, Requisition Type, Item, and Special Inventory Codes, purchase unit of measure, on-hand and on-order quantities, months' supply, excess quantity, and the extended cost value of each stock item whose supply exceeds the specified number of months' forecasted demand. The total value of all excess merchandise listed is also computed, and, when printed, the Department Code and stock number of each item are also included. This report serves as a management tool,

identifying those items in long supply that require transfer, markdown, or survey action. The report may be printed at any time, but is most accurate and useful when prepared during the first week of each accounting period using the updated Total Balance figures.

*Ship's Store Afloat* requires the Sales Officer to maintain an Excess Stock List for distribution to the type commander, the nearest NAVRESO Fleet Assistance Team, and to the other Sales Officers in the area (20:1187-2a). The Fleet Excess Stock List is intended to serve this purpose. The format of this report includes the stock number, description, purchase unit of measure and cost, and the excess quantity. Only those items meeting the Sales Officer's excess criteria are displayed, and while reviewing the list, he may change the quantity of any item; replacing the excess quantity with a zero will delete the item from the list when printed. Again, this list may be prepared at any time, but will be most accurate following the end-of-period inventory.

The Excess Stock List by Vendor is essentially the Fleet Excess Stock List sorted by Vendor Number, and with the extended cost values added. This report, with the the vendor's name and number displayed at the top of each page, can be used by the Sales Officer to arrange for the exchange or return of excess merchandise with each vendor. So long as the items are in good, saleable condition, and can be clearly identified by source, vendors will usually assist with the disposition of such stock in order to ensure future sales to the ship. The

report is best prepared immediately following records close-out when the Total Balance figure represents the actual on-hand balance, but can be printed at any time.

Foreign Merchandise. Ship's Store Afloat requires that

Forty days prior to departure from the area where foreign merchandise has been obtained, commanding officers will forward to COMNAVLOGPAC or CONSERVFORBIXTHFLT, as appropriate, with a copy to type commander, a report of all foreign merchandise for which difficulty in liquidation is anticipated [20:1155-9].

To produce this report, the Foreign Merchandise Report function has been added to the Retail Operations Reports Menu. The Sales Officer is presented with three options by the Foreign Merchandise Report Menu. First, he may print a Foreign Merchandise Inventory Count Sheet listing the stock number, description, storage location, and retail unit of measure for each item in the Stock Record Masters with a foreign merchandise Requisition Type Code. After he has conducted a physical inventory of these items, the Sales Officer can enter the on-hand quantities in the appropriate blanks on Screen R05150802, then print a Foreign Merchandise Report. As required, this report contains the stock number, description, date of receipt, purchase unit of measure and cost, on-hand quantity, and extended value of each item of foreign stock. The Sales Officer is also given the option of printing the same report with the Total Balance figures from the Stock Record Masters listed. This process could be used only in those instances when the report date coincided with the period

inventory and closeout.

When prepared by either method, the report lists total on-hand balances of foreign merchandise. This information could be useful in arranging transfers of this stock to other ships or back to the overseas Navy Exchange at the end of a deployment. However, to prepare the required "difficulty in liquidation" report for submission, the Sales Officer must conduct a physical inventory of the foreign stock, analyze and evaluate the data contained in the Stock Record Masters and Inventory Management Report, and reduce the inventory figures to reflect the quantities he predicts will be unsellable during the next forty days. This is a highly subjective determination, and the combination of the returnability of stock to the overseas Exchange, and the unwillingness of the Sales Officer to report an over-stock situation to his superiors will tend to limit the length of the report. Given the simplicity of preparing a comprehensive report listing actual on-hand balances, such a report may be required in the future to present a more accurate description of the ship's foreign stock position.

Inventory Count Sheets. A time-consuming process required by the ROM System is inventory prelisting, wherein for each retail outlet and storeroom to be inventoried, the Recordskeeper must enter the stock number for every item in that space in some logical sequence intended to simplify the inventory process. Once entered, the listing sequence is retained in the system, and can be modified to reflect the



addition or deletion of items from stock, or any desired change in sequence. This task could be greatly simplified through incorporation of an automatic prelisting function.

Inventory Prelisting Screen RD4050801 has been modified to record not only the number of the store to be inventoried, and the serial number of the first count sheet, but also to permit a choice among three prelisting methods. "Manual" is the original method; "Automatic" will automatically list all stock items within a specified range while assigning sequential serial numbers to the count sheets; and "Special Inventory Code Items" automatically lists only those items with a Special Inventory Code assigned. When either automatic method is selected, Screen RD4050802A will be displayed for the Sales Officer to determine whether the count sheets will list items in sequence by department or stock number, and to specify the range of departments or stock numbers to be included. When department sequence is chosen, the items will be listed in stock number order within each department. In both automatic modes, all special order items (Item Code "Z") will be excluded from the count sheets.

Automatic prelisting of Special Inventory Coded items is provided to facilitate mid-period inventories of these items when setting their stock limits or computing their reorder quantities. Since either the Bulkroom Balances or historical demand figures for these items are unreliable, the Sales Officer may choose to physically inventory them before making major stock control decisions.

Price List. The ships store operator must be provided an up-to-date price list to verify retail prices and prepare rough breakout lists. For walk-up stores, a price list must be displayed for the crew to check stock availability and prices. Copies of the Ships Store Inventory Count Sheets (NAVSUP Form 238) were previously used for this purpose, but the large 132-column RDM System printouts are ill-suited for reference and posting.

A Stock Price List function has been added to the Stock Record Master Maintenance Menu in order to prepare a proper list. The Sales Officer has the option of printing the list in sequence either by department or stock number, and can further specify the range of departments or stock numbers to be included. The list itself is printed in an 80-column format. Beneath a header containing the ship's name and hull number, and the date of preparation, are listed the department code, stock number, description, retail unit of measure, and the retail price of each item specified, with forty-five single-spaced entries per page.

Stock Records By Vendor. A second new function added to the Stock Record Master Maintenance Menu provides the ability to display the inventory status of those items procured from a particular vendor or Navy supply activity. By entering the Vendor Number previously established through the SSAC/Contract Vendor Maintenance function, the Sales Officer is presented an on-screen list of the stock items last procured from that vendor. The display includes the stock number, description,

stock limits, and both Bulkroom and Total Balances of each item, in stock number sequence. If more information is required for a certain item, positioning the cursor and pressing the PF Key will cause the Stock Record Master (View Mode) screen to be displayed.

The purpose of this function is to provide current stock status information during visits by salesmen. Many of the largest firms supplying ships store merchandise represent several different manufacturers, each with a separate Ships Store Afloat Catalog listing and associated Vendor (Code) Number. To review all the stock items available from these large distributors, it is necessary to enter each Vendor Number individually. However, once the RDM System is fully operational, most reorders will be prepared automatically, and salesmen will serve primarily to introduce new merchandise rather than to solicit reorders.

#### IV. Conclusions and Recommendations

##### The Basic ROM System

The Retail Operations Management System installed on the Wang VS 80 minicomputer has demonstrated its operational effectiveness aboard USS KIDD (DDG 993). A description of the SNAP II System applies equally well to the ROM System:

. . . the primary savings of the system is in the reduction of administrative burden by eliminating requirements to keep certain manual records, which will now be kept in online files; elimination of the need to prepare certain reports manually, since the system will automatically generate many currently manual reports; and the reduction in error rates and associated time to screen and correct documents by online/immediate validation of data [22:4].

The observed 78% reduction in manhours required to process documents and close out records during the first full accounting period in operation attests to the success and potential of this system (23).

The ROM System will eventually be converted to operate on a standard SNAP compatible microcomputer in order to benefit from the maintenance and training support available through that program. However, since the development, acquisition, and installation of these microcomputers will require several years to complete, the decision was made to develop a low-cost system that could provide the enormous benefits of retail operations

automation to the fleet in the interim. For that purpose, the ROM System software is currently being rewritten by NAVMASSO for installation on the Zenith Z-100 microcomputer.

In addition to reducing administrative workload and improving accuracy, this interim ROM System will serve another important purpose: Computer Indoctrination. On most ships, the Zenith/ROM System will be delivered long before any SNAP II hardware. And while implementation of this system will directly impact only one small division, it will begin the inevitable process of computer familiarization and operational training months or even years earlier, particularly for personnel in the Supply Department. While only two or three individuals will operate the system, many will watch it in action. This exposure to a user friendly, menu-driven, interactive system should quickly relieve automation anxiety, and stimulate interest in learning to operate this and other systems. The lessons learned during implementation can be directly applied in the short-term if a similar interim system is introduced in foodservice, and in the long-term to the implementation of the SNAP II System.

#### The Enhanced ROM System

The *Retail Operations Management System User's Guide* lists five system characteristics that were emphasized during the

design of the RDM System. Three of these are

- On line maintenance and inquiry capability to access logistic, inventory, and financial data in the RDM database.
- On demand production of reports for management and analysis of the shipboard retail operations function.
- Production of financial reports to aid in the control of merchandise inventories [10:11].

Analysis of the RDM System indicates that, while the system has effectively automated the required file maintenance, document preparation, and report generation functions, it has been less successful in attaining the design characteristics specified above. Database query capability is limited to displays of Stock Record Masters and financial records. Inventory management information is available in two forms: The Stock Record Master List, which displays the prices, stock balances, and stock limits of inventory items, and the Inventory Management Report, a more powerful tool that lists historical demand, stock balances and limits, and the number of months' supply of each item. However, the information contained in these two reports must be manually processed by the Sales Officer to calculate stock limits, order quantities, and stock excesses. In this regard, neither report represents a major improvement over the manual recordskeeping system.

The Enhanced RDM System, incorporating the decision support functions described herein, simplifies critical managerial tasks, produces management reports to improve

inventory control, and adds increased flexibility to functions of the basic system. The ten system enhancements permit the Sales Officer to:

1. Record additional descriptive and quantitative data for individual stock items and accounting periods.
2. Print a Stock Record Master List including only certain categories of stock, such as basic stock items, deployed load items, foreign merchandise, trial items, or special order items.
3. View inventory levels and individual Stock Record Masters for merchandise procured from a particular vendor.
4. Print a current Stock Price List.
5. Compute new stock limits based on forecasted demand.
6. Compute reorder quantities based on stock limits.
7. Prepare requisitions and purchase orders automatically based on computed order quantities.
8. Prelist Inventory Count Sheets automatically to include all stock items, a specified range of items, foreign merchandise, or just those items with Special Inventory Codes.
9. Prepare the Foreign Merchandise Report.
10. Identify excess stock based on forecasted demand, and present this information in three different formats: (1) The Excess Stock Management Report for use in developing a disposition plan; (2) The Fleet Excess Stock List to advertise excess stock; and (3) The Excess Stock List By Vendor to facilitate returns and exchanges with vendors.

These enhancements constitute decision support functions intended to reduce the workload on the Sales Officer. No longer will he be required to perform hundreds of manual calculations in order to establish stock limits and determine reorder quantities. These values will be computed and displayed for review; he may then override any figure based on his judgment and experience. The time he saves can then be devoted to those tasks which are not automated, such as selection of new merchandise, disposition of excess stock, and personnel training. The Enhanced ROM System could conceivably save as many hours for the Sales Officer as the basic ROM System saved for the recordskeeper.

The decision support functions in the Enhanced ROM System are strictly optional. The Item and Special Inventory Codes, case lot quantities, days under way figures, and the other new data fields may be left blank without any effect on the functions of the basic system. When this data is entered, and the decision support routines exercised, the Sales Officer is in all cases provided the opportunity to review and override the computed values. This review process is essential to verify system performance as well as to catch errors caused by miskeyed data entry. However, the time devoted to reviewing computed values will inevitably decline as user experience and confidence in the system increase.

The computations performed by the system are generally the same calculations the Sales Officer would perform himself if he had enough time; certainly they are superior to the heuristics



applied by many officers to save calculation time. In addition to improved accuracy, automation will encourage more frequent computation of key inventory figures. In particular, stock limits will be updated once each period using the most recent historical demand data, and again at the beginning and end of each deployment to reflect the large fluctuations in forecasted demand. Similarly, automatic computation of reorder quantities and preparation of order documents will encourage more frequent reorders, thus minimizing stockouts while improving readiness for under way operations.

NAVMASSO began the Wang to Zenith software conversion in April 1984. That effort has progressed slowly, hampered by the lack of detailed ROM System documentation. Additional NAVMASSO resources are scheduled to be devoted to the project starting with the new fiscal year, which means the Zenith/ROM System may finally reach the fleet in mid-1985. Although any delay in fleet implementation is regrettable, the current development schedule presents an important opportunity. If the decision support functions in the Enhanced ROM System are endorsed by NAVRESSO and the Naval Supply Systems Command, they could be incorporated into the Zenith/ROM System before its initial fleet introduction.

The Enhanced ROM System is far more powerful than the basic system, but politically and practically, the enhancements can only be incorporated during the original Zenith/ROM development. The cost and effort to program, test, certify, and implement the enhancements after the basic system is

operational could not be justified for an interim system. Conversely, adding these features now during development of the basic system would involve insignificant cost and delay. Although the enhancements could otherwise be included when the ROM System is finally converted to operate on the SNAP compatible microcomputer, that would deny the benefit of these decision support functions to the fleet for years.

The ROM System enhancements were designed for smooth integration with the basic system. The number of additional data elements and changes to original system functions were both kept to a minimum. Consistency with the basic system was maintained for all user interfaces, including menus, displays, and data entry procedures. The design details have been documented in the Department of Defense Standard format specified by NAVMASSO in order to simplify their programming effort. To facilitate implementation, the enhancements have also been documented as formal changes to the two ROM System manuals. The new pages for the *Retail Operations Management System Handbook* and *User's Guide* have been printed in the same format as the original manuals to permit reproduction without further editing.

Incorporation of these powerful decision support functions into the interim Zenith/ROM System will provide the Sales Officer with the tools he needs to effectively manage the ships store inventory. Use of these tools is optional, and the Sales Officer is encouraged to review and modify computed decisions on the basis of his judgment and experience. Even without such

review, the Enhanced ROM System will control inventories better than many Sales Officers who currently have too little time to devote to the task. With the automation of time-consuming manual calculations, all Sales Officers will finally have the time and information to effectively manage their ships store operations.

### The Future ROM System

While the ROM System represents a quantum improvement in retail operations management afloat, it does not incorporate the state-of-the-art retail technology currently on the market. In particular, point-of-sale inventory systems utilizing optical scanning equipment have recently become commonplace not only at large retail stores, but also at a growing number of military exchanges and commissaries. The increasing popularity of this equipment is a function of improving capability and reliability, decreasing cost, and proven effectiveness. In fact, the *Integrated Functional Description for SNAP II* SDS specified a point-of-sale inventory control capability for the SNAP II retail operations system (22:35).

Given the original SNAP II specifications, the growing use of these technologies within the Navy Resale System, and the improving cost-benefit ratio of such equipment, it seems likely that when the ROM System is finally converted to operate on a

SNAP compatible microcomputer, many of these advanced features will be incorporated. The other major factor supporting this prediction is the continuing progress being made within the Department of Defense with bar coding under the Logistics Applications of Automated Marking and Reading Symbols (LOGMARS) project. Point-of-sale inventory control, bar code scanning, and electronic funds transfer capabilities are coming to the fleet, and promise to revolutionize ships stores afloat operation and management.

Point-of-Sale Inventory Control. Establishing a point-of-sale inventory control system aboard ship will require new cash registers to be installed in all retail outlets. Each register will incorporate its own microprocessor to perform price calculations, a keyboard for the entry of stock numbers and quantities, an output screen to display stock numbers and prices for verification, a paper tape printer to record transactions, and a direct connection to the ROM System microcomputer. When the store operator enters the stock number and quantity of an item being purchased, the data will be transmitted to the ROM System microcomputer which will automatically reduce the Store Balance of that item, and send the current price back to the register for display and computation of the final customer charge.

Such a system presents many advantages over the basic ROM System. First, a real-time inventory balance can be maintained for all stock items, permitting exact mid-period computations of demand, stock limits and reorder quantities. Second, the

system can now compute and automatically prepare stock break-out documents based on the Store Balance, specified stocking objectives, and most convenient issue quantities. Third, the system can identify fast and slow selling items, and compute recommended stocking objectives and shelf space allocations. It can also manage stock rotation to preclude overaged and spoiled merchandise. Fourth, after a physical inventory is conducted, the system can list by stock number the items that were either missed or lost to theft during the period. This feature will improve inventory accuracy and help to deter pilferage. Finally, the total daily sales and total cash collected figures can be entered into the ROM System directly from the store during daily close-out.

Optical Bar Code Scanning. The percentage of ships store merchandise which is labeled with the Universal Product Code (UPC) has been estimated at 60 to 70% (14). In addition, based on the success of the LOBMARS project, the new Department of Defense standard "3-of-9" bar code is now required to be printed on unit packs and outer containers of all DOD supplies (7:13). Although the military exchanges and commissaries were specifically excluded from the LOBMARS project, such ships store items as Navy Standard Clothing and laundry supplies will bear the 3-of-9 bar codes. To process those few items that are delivered without any bar code identification, the ROM System will have to be programmed to produce 3-of-9 stock number labels on its dot matrix printer.

The light emitting wand, or scanner, that is used to read

the bar codes will be connected directly to the RDM System microcomputer through the store cash register. The system must be capable of reading both UPC and 3-of-9 codes; UPC code numbers will be automatically translated to ships store stock numbers for standardized processing. When a bar code is unreadable, or when the scanner system fails, the store operator can continue to operate by manually keying in item stock numbers directly to the register. Two significant benefits of this scanning system are the virtual elimination of errors in entering stock numbers and prices, and the reduction in time spent labeling items since the majority of merchandise will be bar coded at the factory. Current LOGMARS efforts to bar code shipping documents could also lead to the scanning of receipt documents for entry into the RDM System. Carrying this process one step further, Intra-store Transfer documents might eventually be eliminated through the use of scanning equipment installed in each storeroom and retail outlet. Stock numbers and quantities issued from the bulk storeroom could then be scanned into the system, and the receipts scanned in at the retail or service facility. Password controlled access to these functions could maintain accountability, replacing the need for multiple signed documents.

It is the portable scanner that offers the greatest potential benefits for retail operations afloat. These hand-held scanning devices are actually small computers with memories of up to 32,000 characters. Designed to increase the speed and accuracy of physical inventories, they have proven

very successful in use at the Field Support Office, San Diego and the Navy Exchange at NAS North Island, reducing inventory manhours by 61% and 70% respectively (11:9-10).

Aboard ship, the efficiencies realized may be even greater. Inventory count sheets will no longer be required since the scanner has sufficient memory to record all stock numbers and quantity figures. After the inventory, the portable scanner will be connected to the ROM System microcomputer, and all the count values electronically entered into the system. The inventory may be conducted in any convenient sequence since all entries will later be sorted by the ROM System microcomputer. Additionally, use of the scanners will minimize misidentification of stock. Although counting errors will still occur, entering the quantities through the scanner by use of a wrist bracelet bearing each bar coded digit, will eliminate the risk of miskeying those figures.

Using manual procedures, the end-of-period inventory on an aircraft carrier generally requires more than a week to complete. Every walk-in store must be closed for inventory for at least one day each month. It is estimated that a store stocking 500 line items could be inventoried with portable scanners in just two hours (13). A storeroom containing full cases could probably be inventoried even faster. While the mandatory second count is being conducted, the ROM System will print an Inventory Difference Report listing the discrepancies between the first count and the running stock balances

maintained by the system. These will be investigated while the second count is entered into the system. Then a new report listing the differences between the two physical inventories will be printed for resolution. This new system will not only be far more accurate than the manual system, but, with all extensions and posting functions automated, will also save a great deal of processing time. Stores will be reopened much sooner, and, for the first time on large ships, it will become feasible for the Sales Officer to personally conduct all physical inventories. The efficiency of this process could make the monthly physical inventory of over-the-counter stores a practical, recommended procedure. And, in the event that a store operator, bulk custodian, or Sales Officer must be relieved on short notice, the required physical inventories can be performed and accountability confirmed within hours.

Electronic Funds Transfer. The Navy has been testing automated teller machines aboard two aircraft carriers since January 1983. The primary purpose of these systems is to eliminate paylines and the problem of safekeeping cash aboard ship. When fully implemented, the system will maintain a separate account for each crewman which he can access with a combination of a magnetic card and personal code number. On paydays, the full amount of each sailor's earnings will be credited electronically to his account. He may either withdraw the full amount in cash immediately, or leave the funds in his account, withdrawing smaller amounts as required. Not only will the cost of check preparation and processing be saved, but



the cost to the Government of maintaining large amounts of cash in shipboard safes will also be significantly reduced.

Aboard the USS JOHN F. KENNEDY (CV 67), the IBM automatic teller machine system has been expanded into the ships store. With the installation of a magnetic card reader and a Personal Identification Number (PIN) keypad in three retail outlets, sailors can now "charge" purchases to their accounts. This system eliminates cash handling errors, decreases the amount of cash that must be counted and deposited daily with the Disbursing Officer, and reduces the problem of bad checks. And, if the use of charge cards in the commercial sector is any indication, this system could very well stimulate greater sales. Although the size, cost, and complexity of these systems may restrict their use to the large, SNAP I equipped ships, the steadily advancing state of the art will no doubt bring similar systems to the rest of the fleet within the foreseeable future. In fact, IBM has already developed and installed a smaller version of their automated teller machine in the wardroom of the KENNEDY for use by the officers (13).

The RDM System represents the first step in the automation and modernization of retail operations afloat. Although the system does not incorporate all the retail technology currently available, this was a conscious decision on the part of Navy decisionmakers concerned not just with acquisition costs, but also with the training and implementation requirements of such high-tech systems. While the current incremental, evolutionary approach to shipboard non-tactical automation is proceeding too

slowly for many Supply Officers, it does allow time for thorough testing, refinement, and implementation of each system. In the meantime, interim systems such as the Zenith/ROM System and the Durango/Nattick Labs Foodservice System will provide a much needed fleet capability.

## Appendix A: Program Specification for the

### ROM System Decision Support Functions

#### 1.1 Purpose of the Program Specification

The objective of this Program Specification for the Retail Operations Management System Decision Support Functions is to describe the design of these program enhancements in sufficient detail to permit their programming and incorporation into the basic ROM System.

#### 1.2 Project References

The ROM System was originally developed by Ingalls Shipbuilding as one module of an interim non-tactical data automation system for the four KIDD-class destroyers. The Naval Sea Systems Command contract that initiated the project did not specify conformance with Department of Defense Standard 7935 (*Automated Data Systems Documentation*), so only limited system documentation was produced. Although the standard commercial Wang VS 80 hardware and operating system are adequately documented, the ROM System itself is described only in the *Retail Operations Management System Handbook* and *User's Guide*. Both publications are written at a relatively low

comprehension level for the purpose of explaining system operation to sailors without previous computer experience. The detailed information normally contained in a Functional Description, System/Subsystem Specification, and Data Element Dictionary does not exist for this system.

Preparation of comprehensive system documentation is not only beyond the scope of this project, but also impractical during the current conversion of the ROM System from Wang VS 80 to Zenith Z-100 hardware. It is essential, however, that the decision support functions developed for incorporation during this conversion process be described in sufficient detail to permit programming. For this purpose, an abbreviated Program Specification format was selected.

This Program Specification documents only the decision support functions to be incorporated into the basic ROM System program. Detailed descriptions of the overall program requirements, environment, and data elements have not been included since these will not be significantly changed by the new functions. In addition, much of the information normally included in a Program Specification, particularly that involving the program data environment, is not available since it is directly affected by the current hardware conversion.

The system of numbered section headings prescribed by DOD-STD-7935 will be applied in this document, with only the applicable headings included. The new and revised program menus and displays presented in Appendix C of this thesis will be referenced by their unique screen numbers, but will not be

reproduced here. Similarly, the nine new and revised report formats will be referenced by title, but not reprinted from Appendix C.

## 2.2 Program Functions

Ten new or revised functions are to be added to the basic ROM System program. Brief descriptions of each follow.

Additional Management Information. Four new data fields have been added to each Stock Record Master. The Item Code is a one-letter code that identifies the special stock status of an item. The four Item Codes are "B" for Basic Stock Items, "D" for Deployed Load Items, "T" for Trial or New Items, and "Z" for Special Order Items. The Special Inventory Code is another one-letter code used to identify stock items for which automated calculation of stock limits and reorder quantities may be invalid. Generally these items will be coded "X", but a more elaborate coding scheme may be implemented to further differentiate among these items. Use of both codes is optional but encouraged in order to enable the system to apply more sophisticated computations and prepare more detailed reports.

The third new data field is the Quantity per Case. This figure represents the smallest quantity of an item in purchase units of measure that is ordered at one time. This is most often the case lot quantity for low-cost items, and "1" for expensive items, but it can also be used to reflect minimum

order quantity restrictions set by a vendor. When the purchase unit of measure is "Case", this value will normally be "1". The fourth new data field contains the six-character Vendor Number assigned to each supplier through the SSAC/Contract Vendor Maintenance function. This field will be updated automatically on the Stock Record Master to reflect the source of each receipt.

These new fields are now included when a Stock Record Master is printed or displayed in the Add, Modify, Delete, and View modes. The initial assignment of Vendor Numbers is straightforward, and they are updated automatically. However, a degree of judgment is required to properly assign Item Codes, Special Inventory Codes, and Quantities per Case. This information should be entered into the system during initial implementation, and as each new item is added to stock. They must then be reviewed and modified as necessary in order for the system to function effectively.

The basic system recorded the number of personnel aboard the ship each month in order to compute the Inventory Control Record. The same input screen has now been modified to also record the number of days per month the ship was under way. Both monthly figures are retained in the system for the current and previous three accounting periods for use in forecasting future demand.

Stock Record Master List. In the basic system, this function permitted the user to specify the range and sequence of stock items for which Stock Record Master information would

be printed. The user may now also specify a particular category of items to be listed. The five categories correspond to the four Item Codes (Basic Stock, Deployed Load, Trial, and Special Order), and the Requisition Type Code for Foreign Merchandise; when no category is specified, all stock items are included. The Stock Record Master List printout has also been modified with the addition of the Item and Special Inventory Codes, and the deletion of the Retail Price Date. These features have been added to both the Add/Modify/Delete Stock Record Cards function and the View Stock Record Cards function in order to standardize the menu and list formats.

View Stock Records By Vendor. This new function displays all the stock items last procured from a specific source of supply. In the basic system, a unique Vendor Number was assigned to each supplier, both commercial and military, through the SSAC/Contract Vendor Maintenance function before an order was placed with that organization. This number is now automatically updated on the Stock Record Master each time a receipt is posted, thus providing a means by which to sort the Stock Record Masters by vendor. The user can now enter the Vendor Number of a particular activity, and all stock items last procured from that source will be displayed twelve at a time in stock number sequence. In addition to the stock number and description of each item, the screen includes their stock limits, and both Bulkroom and Total Balances. Just as in the View Retail Departments function, the user may position the workstation cursor next to any stock item displayed and, by

pressing the appropriate function key, view the Stock Record Master for that item. This function is available only through the Add/Modify/Delete Stock Record Cards function, and not through the View Stock Record Cards function.

Stock Price List. Another new function accessed through the Add/Modify/Delete Stock Record Cards function, this procedure permits the user to print a Stock Price List. After the user has selected whether the list will be printed in sequence by retail department or by stock number, and has further specified a range of departments or stock numbers to be included, the list is printed in a format that includes the department code, stock number, description, retail unit of measure, and retail price of each item.

Stock Limits. Whereas the basic system required the user to manually calculate and enter stock limits, the Set High and Low Limits function has now automated this task. For each stock item, the system forecasts future demand based on historical demand, anticipated crew size, and scheduled operating tempo. Then, after estimates of Order and Shipping Time are entered, the stock limits are computed in accordance with authorized stocking objectives, and displayed in a user-specified sequence for review and necessary changes. They may then be posted to the Stock Record Masters, or printed along with the historical and forecasted demand figures for further review.

Reorder Quantities. The Compute Order Quantities function has replaced the manual calculations previously required by the



basic system to determine reorder quantities. The user specifies whether all items will be ordered up to their high limits, or just those items with on-hand balances less than or equal to their low limits. The computed order quantities are rounded to the nearest full-case multiple, and displayed for review and modification. This display format, which also includes detailed inventory information, segregates those items with Special Inventory Codes for special review. A listing of the computed order quantities and supporting data may be printed for further review before any orders are placed, or the computed and verified figures may be used in the automatic preparation of the required order documents.

Order Document Preparation. To prepare order documents under the basic system, the user had to enter the stock number and quantity of each item to be ordered vendor by vendor, and then add all of the document header information pertaining to each vendor. As an extension of the Compute Order Quantities function, the preparation of most requisitions and purchase orders has been completely automated. The Compute Order Quantities function processes only one category of stock items at a time, the categories corresponding to Requisition Type Code (i.e. Contract Bulletin, CARGO, Foreign Merchandise, SSAC, and Navy Standard Stock). This standardizes the order document type and format for each batch of orders. When the merchandise is to be ordered from a Navy source, the Unit Identification Code (Vendor Number) of that activity must be entered. For commercial sources, the stock items are automatically sorted by

Vendor Number to permit preparation of multiple purchase orders. The Requisition and Purchase Order functions in the basic system are used to prepare the order documents, but the stock numbers and order quantities are automatically inserted for review, as is all the appropriate vendor information based on the information contained in the SBAC/Contract Vendor File. The user is required to enter no additional information during this process.

Inventory Count Sheets. The basic system required the user to enter the stock number of each item to be prelisted on Inventory Count Sheets. This function has been modified to permit automatic prelisting of all the merchandise in a specified range of departments or stock numbers, or to prelist just those items with a Special Inventory Code assigned. In this automatic mode, each Inventory Count Sheet is consecutively serialized starting with the number specified by the user.

Foreign Merchandise Report. The Foreign Merchandise Report function has been added to produce the formal report required for submission forty days prior to departure from a deployment area. It first prints Inventory Count Sheets listing all items of foreign merchandise for which Stock Record Masters are maintained. After this merchandise has been physically inventoried, the on-hand quantities may be entered to produce a report reflecting these stock levels. The same report may also be prepared automatically after an end-of-period inventory by using the Total Balance figure on the Stock Record Master as

the actual on-hand quantity. While this report is a useful management aid, the formal report is to include only those items and quantities for which difficulty in disposition is anticipated. The user must make this determination subjectively, and enter the appropriate figures to be printed in the formal report.

Excess Stock Lists. The Excess Stock Lists function permits the user to select one of three different formats in which to list the ship's overstocked merchandise. In all three formats, future demand is forecasted based on the demand data from a previous accounting period, anticipated crew size, and scheduled operational tempo. The on-hand plus on-order total of each item is expressed as a number of months' supply, and just those items whose supply exceeds a specified number of months are listed.

The Excess Stock Management Report is the most detailed of the three formats, displaying the description, Requisition Type, Item, and Special Inventory Codes, purchase unit of measure, on-hand and on-order balances, number of months' supply, the excess quantity, and the extended value of each excess stock item. The total value of all excess items is also computed. This report may be printed or viewed on screen.

The Fleet Excess Stock Report displays only the stock number, description, purchase unit of measure, cost price, and excess quantity for each item in excess. This report is intended for distribution to other ships and activities to encourage the transfer of this merchandise. The user is given

the opportunity to review and change the computed excess quantities displayed before printing and distribution.

The final report format is the Excess Stock List By Vendor which displays the same information included on the Fleet Excess Stock List. The difference is that the excess items are sorted by their source of supply. At the top of each screen or page, the name of the vendor or activity from which the items were last procured is displayed, along with the applicable Vendor Number. When printed, the excess stock from each vendor will be listed on a separate page, along with the total value of that stock.

#### 4.2 Inputs

Screen R00001S01. The Retail Operations Management Master Menu provides user access to the various system functions. One new function has been added to this menu: Set High and Low Limits. This function is accessed by pressing Program Function (PF) Key 17. The only other change to this screen is the reassignment of the ROM Data Backup/Restore function from PF Key 17 to PF Key 18.

Screen R01000S01. The Stock Record Master Maintenance Menu has been modified to provide access to two new functions. Pressing PF Key 11 will permit the user to view all the stock items last procured from a particular source of supply. PF Key 13 accesses the Print a Stock Price List function.

Screen RD1000S02. The Stock Record Master - Add Mode

screen has been reformatted to include four new data fields. The Item Code is a one-letter code which identifies the special stock status of an item. Although the system will accept entry of any alphabetic character, only four letters have been defined for system processes. These are "B" for Basic Stock Items, "D" for Deployed Load Items, "T" for Trial or New Items, and "Z" for Special Order Items. This code should be entered whenever a Stock Record Master is first prepared for a new stock item, and updated as appropriate through the Modify Mode. The Item Code is an optional data element, so the field may be left blank.

The Special Inventory Code (Inv Code) is another new one-letter code that identifies those stock items for which automatic computation of stock limits and reorder quantities may not be accurate. This code can be applied to an item stocked in the store rather than in the bulk storeroom for which the Bulkroom Balance figure does not approximate usage. It can also identify items whose demand has been significantly affected by stockouts and price markdowns. The system will accept any alphabetic character; this is essentially a binary code that is either blank or filled. An "X" is recommended to label all such items, but the user may develop a more elaborate system to provide increased information. For example, an "M" for markdowns and an "S" for stockouts. This code might be assigned during the the initial preparation of a Stock Record Master since any new item has in effect been in a stockout

position. Usually, however, these codes will be entered and deleted regularly through the Modify Mode.

The Quantity Per Case indicates the smallest quantity of the item that is procured at one time, stated in purchase units of measure. For most low-cost items, this will in fact be the quantity per case. For other items, it may represent a convenient package size, or a vendor-imposed minimum order quantity. When the purchase unit of measure is "case", this value should be "1". A default value of one is assigned to this data field; any whole number between 1 and 9999 is acceptable to the system. This figure should be entered whenever a Stock Record Master is first being prepared for a new item through the Add Mode, and updated as required through the Modify Mode.

A Vendor Control Number, or Vendor Number, must be assigned to each commercial vendor and Navy activity through the SSAC/Contract Vendor Maintenance function before orders can be placed with those organizations. Contract Bulletin vendors are identified by the last four digits of their current contracts. Vendors listed in the Ships Store Afloat Catalog are identified by the six-digit Vendor Code Number printed on the effective bulletin. In the case where no such number is assigned, the user must assign a local three-digit number. Navy ships and shore activities are identified by their one-letter Service Designator and five-digit Unit Identification Codes. The system will accept any combination of six alphanumeric characters in this field. The user need not enter the Vendor Number; it will be automatically updated each

## DECISION SUPPORT FUNCTIONS FOR THE RETAIL OPERATIONS

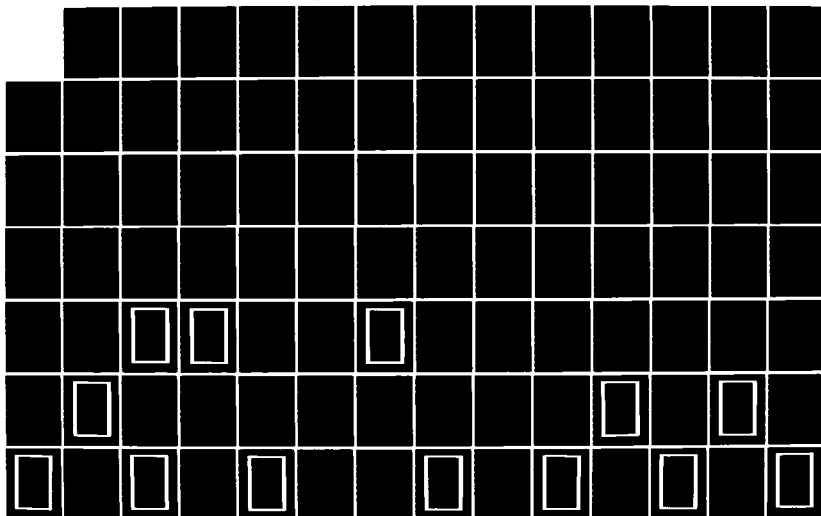
MANAGEMENT SYSTEM(U) AIR FORCE INST OF TECH

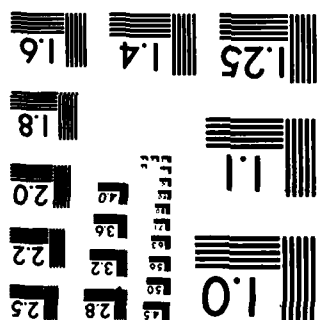
WRIGHT-PATTERSON AFB OH SCHOOL OF SYST.. J L MITCHELL

SEP 84 AFIT/GLM/LSM/84S-47

F/G 5/1

NL







time an item receipt is posted.

Screen R01000603. The Stock Record Master - Modify Mode screen displays the descriptive and quantitative information about a stock item, including the contents of the four new data fields which can be updated or corrected as necessary.

Screen R01000610. This Stock Record Master List screen has been modified to permit the user to specify a particular category of stock items to be included in the list. An "X" may be placed in the pseudobank next to one of the following five item categories: Basic Stock Items, Deployed Load Items, Foreign Merchandise, Trial/New Items, and Special Order Items. When a selection is made, only stock items in that category will be included in the Stock Record Master List; if no category is specified, all stock items will be included. The selection of list sequence is performed just as in the basic system.

Screen R01000614. The View Stock Records By Vendor screen requires the user to enter the Vendor Number corresponding to a particular source of supply for the purpose of displaying a list of stock items last procured from that source. The Vendor Number can be any combination of six alphanumeric characters, but must previously have been established through the SSAC/Contract Vendor Maintenance function.

Screen R01030501. The Stock Price List screen permits the user to specify the sequence and range of stock items included on the Stock Price List to be printed. The sequence is selected first by entering an "X" next to either "Department"

or "Stock Number." If no selection is made, the list will be printed in stock number sequence by department. The range of departments or stock numbers to be included may then be specified. If by department, the two-character department code of the first department to be included should be entered under "From Department," and the code of the last department to be included should be entered under "Thru Department." The codes entered must be valid codes previously established through the Update Retail Operations Constants function. If a code is entered only under "From Department," only that one department will be included in the list; if both fields are left blank, then all departments will be included. Similarly, if Stock Number sequence is selected, a range of stock numbers may be specified, with the first number to be included entered under "From Stock Number," and the last number to be included entered under "Thru Stock Number." The stock numbers entered must be valid numbers previously established in Stock Record Masters. If both fields are left blank, then all stock numbers will be included in the list.

Screen R07000S10. This Stock Record Master List screen has been modified identically to Screen R01000S10 above.

Screen R00002S01. The Requisitions/Purchase Orders screen has been modified to allow user access to PF Key 7, the new Compute Order Quantities function.

Screen R02000S02D. This new Purchase Orders screen requires the user to enter the Unit Identification Code (Vendor Number) of the overseas Navy Exchange from which foreign

merchandise is to be procured. The screen is displayed only after the Compute Order Quantities function has been executed for foreign merchandise, and the user has elected to prepare the purchase order automatically. The one-letter, five-digit code entered must previously have been established through the SSAC/Contract Vendor Maintenance function.

Screen R02020S01. This screen is the first displayed under the new Compute Order Quantities function. The user is required to specify one category of stock items for which reorder quantities are to be computed by entering an "X" next to either "Contract Bulletin," "CARGO," "Foreign Merchandise," "Ships Store Afloat Catalog (SSAC)," or "Navy Standard Stock Items." These categories correspond to the Requisition Type Code assigned to each stock item. Those items available through both the Contract Bulletin and CARGO (Requisition Type Code "D") are processed when either of those individual categories is selected.

Screen R02020S02. This Compute Order Quantities screen permits the user to specify a range of departments for which order quantities are to be computed, and also to determine the sequence within departments in which the stock will be displayed. The two-character department code of the first department to be included should be entered under "From Department," and the code of the last department to be included should be entered under "Thru Department." The codes entered must be valid codes previously established through the Update Retail Operations Constants function. If a code is entered

only under "From Department," only that one department will be included in the list; if both fields are left blank, then all departments will be included. Then an "X" should be entered in the pseudobank next to either "Stock Number Order" or "Alphabetical Order" to determine the sequence within each department in which the stock items will be displayed. When no selection is made, the items will be displayed in stock number order.

Screen R02020S03. This intermediate Compute Order Quantities screen requires the user to select the inventory balance and order criteria to be used in the computation of the reorder quantities. First, an "X" must be entered in the pseudobank next to either "Bulkroom Balance" or "Total Balance" to specify which of the two inventory quantities from the Stock Record Master will represent stock on-hand in the reorder calculations. Then, another "X" must be entered alongside one of the two order criteria listed. The first will compute a reorder quantity up to the high limit only when the on-hand plus on-order total is less than or equal to the low limit for the item. The second criteria will compute the reorder quantities necessary to bring all stock items up to their high limits. There is no default selection; the user must specify the balance and criteria to be used.

Screen R02020S04. The final Compute Order Quantities screen displays all the stock items in the specified category and range, permitting the user to review and change the computed reorder quantities. The information displayed for

each item includes the description, Requisition Type, Item, and Special Inventory Codes, purchase unit of measure and cost, quantity per case, Bulkroom and Total Balances, quantity on order, stock limits, and computed order quantity. All the quantities shown are stated in purchase units of measure to facilitate comparisons, and the order quantities are all rounded to the nearest full-case multiple. Those items with Special Inventory Codes assigned are listed after the other stock, under the following heading: "Special Inventory Items . . . Review Order Quantities Carefully!" The order quantities are the only values that the user may change on this screen. The value must be a whole number between 0 and 99999, or may be left blank. The stock items are displayed ten items per screen, with the ENTER key and PF Keys 1 and 3 allowing the user to advance one screen, redisplay the first screen, and redisplay the previous screen, respectively. Pressing PF Key 14 will cause the list of order quantities (as modified) to be printed for further review. Selection of PF Key 15 begins the process of automatic order document preparation for the order quantities displayed.

Screen RD4050601. This Inventory Prelisting Menu, which previously required only the entry of the store number and count sheet serial number, has been modified to permit the user to select one of three prelisting methods. Placing an "X" in the pseudobank next to "Manual" will begin the process wherein the user must enter each stock number to be included on the Inventory Count Sheets in the order desired. Selection of

"Automatic" will allow the user to specify a sequence and range of departments or stock numbers to be automatically prelisted on the count sheets. Finally, when "Special Inventory Code Items" is specified, all those stock items with that code will be automatically prelisted. There is no default selection; an "X" must be entered next to one of the three prelisting methods.

Screen R04050602A. This Inventory Prelisting screen permits the user to specify the sequence and range of stock items to be included on the Inventory Count Sheets. The sequence is selected by entering an "X" next to either "Department" or "Stock Number." If no selection is made, the list will be printed in stock number sequence by department. The range of departments or stock numbers to be included may then be specified. If by department, the two-character department code of the first department to be included should be entered under "From Department," and the code of the last department to be included should be entered under "Thru Department." The codes entered must be valid codes previously established through the Update Retail Operations Constants function. If a code is entered only under "From Department," only that one department will be included in the list; if both fields are left blank, then all departments will be included. Similarly, if Stock Number sequence is selected, a range of stock numbers may be specified, with the first number to be included entered under "From Stock Number," and the last number to be included entered under "Thru Stock Number." The stock

numbers entered must be valid numbers previously established in Stock Record Masters. If both fields are left blank, then all stock numbers will be included in the list. After entering this information, pressing the ENTER key will cause the Inventory Count Sheets to be printed.

Screen R00004S01. The Retail Operations Reports Menu has been modified to permit access to two new functions. PF Key 10 is now assigned to the Excess Stock Lists function, and PF Key 11 to the Foreign Merchandise Report function.

Screen R05100S01. The initial Inventory Control screen now includes a new data field into which the actual number of days the ship was under way each month is to be entered. Since this information is not known until the end of the month, the field may be left blank when computing updated Inventory Control Records during the month. When entered, the field must contain a whole number between 0 and 31.

Screen R05140S01. The Excess Stock Lists Menu permits access to three new report preparation functions: Excess Stock Management Report (PF Key 1), Fleet Excess Stock List (PF Key 2), and Excess Stock List By Vendor (PF Key 3).

Screen R05140S02. This Excess Stock Lists intermediate screen requires the user to specify the previous accounting period on which to base forecasts of future demand, to set the number of months' supply above which stock will be classified "excess," and to select either the Bulkroom or Total Balance figure to be used as the on-hand quantity in the computations. First, an "X" must be entered in the pseudoblack next to the

inclusive dates of one of the previous three accounting periods listed. When no selection is made, the most recent period's historical demand data will be used in the computations. Next, the user must specify the number of months' supply he considers allowable. For example, if he enters "4", only those stock items with an on-hand plus on-order total greater than four months' forecasted demand will be listed. This value must be a whole number between 1 and 9, and may not be left blank. Finally, the user must enter an "X" next to either "Bulkroom Balance" or "Total Balance" to indicate which inventory figure from the Stock Record Master will be used in the computations to represent the current on-hand quantity. Again, there is no default selection; one of the two options must be chosen.

Screen R05140803. This Excess Stock Lists screen first requires the user to enter an "X" next to either "CONUS" or "Deployed" to indicate the current operating status of the ship. Next, if deployed, the number of months deployment remaining must be entered. This value must be a whole number between 0 and 99; it can be left blank only when the ship is in CONUS. Next, the estimated average number of personnel that will be aboard the ship through the end of the current accounting period must be entered. This figure is calculated manually, using a weighted average to most accurately reflect large embarkations and debarkations. The value must be a whole number between 1 and 99999, and cannot be left blank. Finally, the estimated number of under way days per month through the end of the current period is entered. This figure,



representing an arithmetic average of the scheduled operating tempo, must be a whole number between 0 and 31, and cannot be left blank.

Screen R05140804. This Excess Stock Lists screen permits the user to specify the sequence and range of stock items to be included on the Excess Stock List or Report. The sequence is selected by entering an "X" next to either "Department" or "Stock Number." If no selection is made, the list will be printed in stock number sequence by department. The range of departments or stock numbers to be included may then be specified. If by department, the two-character department code of the first department to be included should be entered under "From Department," and the code of the last department to be included should be entered under "Thru Department." The codes entered must be valid codes previously established through the Update Retail Operations Constants function. If a code is entered only under "From Department," only that one department will be included in the list; if both fields are left blank, then all departments will be included. Similarly, if Stock Number sequence is selected, a range of stock numbers may be specified, with the first number to be included entered under "From Stock Number," and the last number to be included entered under "Thru Stock Number." The stock numbers entered must be valid numbers previously established in Stock Record Masters. If both fields are left blank, then all stock numbers will be included in the list. After entering this information, pressing the ENTER key will display the Excess Stock List.

Screen R05140606. The Fleet Excess Stock List screen displays the stock number, description, purchase unit of measure, cost price, and computed excess quantity for those stock items in an excess inventory status. The excess quantity figure is the only modifiable field on the screen, which permits the user to change the computed quantities before printing the list. Each figure must be a whole number between 0 and 99999, or left blank. When the quantity field is changed to zero or blanks, that stock item is not included on the list. The computed excess quantities are listed ten items per screen, and can be reviewed by pressing the ENTER key to display the next screen, PF Key 1 to redisplay the first screen, and PF Key 2 to redisplay the previous screen. Pressing PF Key 3 prints the Fleet Excess Stock List.

Screen R05150601. The Foreign Merchandise Report Menu permits user access to three new functions. The user must first enter the date of the report in standard DDMMYY format where DD is the two digit day of the month, MM is the first three letters of the name of that month, and YY is the last two digits of the year. Pressing PF Key 3 will cause the system to print Inventory Count Sheets listing all stock items with a Foreign Merchandise Requisition Type Code. Selecting PF Key 4 will display those same items of foreign merchandise with pseudoblanks to record inventory or report quantities. And finally, PF Key 5 will direct the system to print a Foreign Merchandise Report using the Total Balance figures from the Stock Record Masters as the listed quantities, and including

only those items with balances greater than zero.

Screen R03150602. The Foreign Merchandise Report screen displays in stock number sequence the stock number and description of every item with a Foreign Merchandise Requisition Type Code. Included next to each item is a pseudobank to record the quantity figure. The user may enter either the physical inventory counts, or some lesser quantities reflecting those items and quantities of foreign merchandise for which he anticipates difficulty in disposition prior to departure from the deployment area. The quantities entered must be whole numbers between 0 and 99999, or left blank. Those items with zero or blank on-hand quantities will not be included on the Foreign Merchandise Report. When entering or reviewing these quantities which are listed ten items per screen, the ENTER key will advance to the next screen, PF Key 1 will redisplay the first screen, and PF Key 2 will redisplay the previous screen. Pressing PF Key 3 will print the Foreign Merchandise Report.

Screen R01020501. The initial Set High and Low Limits screen permits the user to specify which of the three previous periods' historical demand data will be used to forecast future demand for the purpose of computing new stock limits. The user should enter an "X" in the pseudobank next to the inclusive dates of the accounting period he has selected. If no selection is made, the most recent accounting period is selected by default.

Screen R01020501A. This intermediate Set High and Low

Limits screen is displayed only when the days under way figures are incomplete for the previous accounting period specified. The month and year for the month with missing data are displayed at the top of the screen, followed by the average number of men aboard during that month. This figure will never be blank because, whether or not an Inventory Control Record was prepared during that month, the system enters the normal crew size from the Retail Operations Constants File by default. This screen offers the user the opportunity to review and correct this figure as necessary by changing the value displayed to any whole number between 1 and 99999. The actual number of days under way during that month will be blank unless the Inventory Control Record was updated at the end of that month. This must be a whole number between 0 and 31, and cannot be left blank. This screen will be redisplayed for each month in the specified period for which the days under way figure is missing.

Screen RQ1020S02. This Set High and Low Limits screen first requires the user to enter an "X" next to either "CONUS" or "Deployed" to indicate the current operating status of the ship. Next, if deployed, the number of months deployment remaining must be entered. This value must be a whole number between 0 and 99; it can be left blank only when the ship is in CONUS. Next, the estimated average number of personnel that will be aboard the ship through the end of the current accounting period must be entered. This figure is calculated manually, using a weighted average to most accurately reflect

significant embarkations and debarkations. The value must be a whole number between 1 and 99999, and cannot be left blank. Finally, the estimated number of under way days per month through the end of the current period is entered. This figure, representing an arithmetic average of the scheduled operating tempo, must be a whole number between 0 and 31, and cannot be left blank.

Screen RD1020S03. On this Set High and Low Limits screen, the user is required to estimate the average Order and Shipping Time for each of the five general sources of supply. A whole number of days between 1 and 99 must be entered in the pseudobank next to "Contract Bulletin," "CARGO," "Foreign Merchandise Program," "Ships Store Afloat Catalog," and "Navy Standard Stock." A default value of one has been established when no figure is entered.

Screen RD1020S04. This Set High and Low Limits screen permits the user to specify the range of items for which new stock limits are to be computed, and to select the sequence in which the limits will be displayed for review. The sequence is selected by entering an "X" next to either "Department" or "Stock Number." If no selection is made, the list will be displayed in sequence by department. The range of departments or stock numbers to be processed may then be specified. If by department, the two-character department code of the first department to be included should be entered under "From Department," and the code of the last department to be included should be entered under "Thru Department." The codes entered

must be valid codes previously established through the Update Retail Operations Constants function. If a code is entered only under "From Department," only the stock from that one department will be processed; if both fields are left blank, then all stock items will be processed. Similarly, if Stock Number sequence is selected, a range of stock numbers may be specified, with the first number to be included entered under "From Stock Number," and the last number to be included entered under "Thru Stock Number." The stock numbers entered must be valid numbers previously established in Stock Record Masters. If both fields are left blank, then all stock items will be processed. After entering this information, pressing the ENTER key will cause the newly computed stock limits to be displayed for review.

Screen RD1020S05. In addition to the computed stock limits, this Set High and Low Limits screen also displays the description, Requisition Type, Item, and Special Inventory Codes, retail unit of measure, historical demand from each of the three previous accounting periods, and forecasted demand for the current period. The user should review the computed stock limits carefully, in particular for those items with Special Inventory Codes, and make any necessary changes. Both the High and Low Limit fields must contain whole numbers between 0 and 99999; blank fields are not acceptable. When reviewing these limits, which are listed ten items per screen, the ENTER key will display the next screen, PF Key 1 will redisplay the first screen, and PF Key 2 will redisplay the

previous screen. After the review process is complete, pressing PF Key 3 will post all the computed stock limits displayed to the Stock Record Masters.

#### 4.3 Outputs

Stock Record Master (NAVSUP 464). The Stock Record Master (NAVSUP 464) is the 132-column printout of the Stock Record Detail Ledger. This display, which includes most of the descriptive and quantitative information from the Stock Record Master as well as all transactions posted during the current period, has been reformatted to display the CARGO number, Vendor Number, Item Code, and Special Inventory Code. It is printed by pressing PF Key 14 from the Stock Record Detail Ledger screen.

Screen R01000904. The Stock Record Master - Delete Mode screen displays the descriptive and quantitative information for a stock item, including the contents of the four new data fields, permitting the user to review this information before the Stock Record Master is deleted from the database. Deletion of the record is accomplished by pressing PF Key 4.

Screen R01000915. The final View Stock Records By Vendor screen displays the stock number, description, stock limits, and the Bulkroom and Total Balance figures of all the stock items last procured from a particular source of supply. Twelve items listed in stock number sequence appear on each screen

beneath the name of the commercial vendor or Navy activity from which they were procured. The entire list can be reviewed by pressing the ENTER key to display the next screen, and PF Key 1 to redisplay the first screen. By positioning the workstation cursor anywhere along a line on which a stock item is displayed and pressing PF Key 3, the Stock Record Master - View Mode screen for that item will be displayed; pressing PF Key 1 (Respecify Stock Number) from that screen will cause the View Stock Records By Vendor screen to be redisplayed.

Stock Record Master List. The Stock Record Master List is a 132-column printout whose format has been altered by the addition of the Item and Special Inventory Codes, and the deletion of the Retail Price Date. The original list could be tailored to include only those stock items within a particular range of departments or stock numbers, and could be printed in sequence either by department or stock number, or alphabetically by item description. In addition, the user can now elect to include only those items from one of the following categories: Basic Stock Items, Deployed Load Items, Foreign Merchandise, Trial Items, and Special Order Items.

Ships Store Price List. This 80-column printout includes the department code, stock number, description, retail unit of measure, and retail price for all the stock items within a specified range of departments or stock numbers. Forty-five items are printed on each page, in sequence either by department or stock number. Printed at the top of each page is the report title, the ship's name and hull number from the



Retail Operations Constants File, and the preparation date.

Screen R07000502. The Stock Record Master - View Mode screen displays all the descriptive and quantitative information about a stock item, and has been modified to include the contents of the four new data fields. However, all the information displayed is in low intensity, thus allowing no entries, changes, or deletions to be made to the ROM System database through this screen.

Order Quantities By Requisition Type Code. This 132-column printout displays the order quantities computed for a particular group of stock items. Prior to the preparation of this report, the user specifies one of five stock categories corresponding to Requisition Type Code; only one such category of items can be processed at a time. However, those items available through both the Contract Bulletin and CARGO (Requisition Type Code "D") will be included whenever either of those two individual categories is processed. The report is always prepared in departmental sequence, but the user may specify a range of departments to be processed, and select to list the items within each department in order either by stock number or alphabetically by item description. All items within the specified group are printed, even if their computed order quantity is zero. For each item, the following information is included: department, stock number, description, Requisition Type, Item, and Special Inventory Codes, purchase unit of measure, cost price, quantity per case, Bulkroom and Total Balances, on-order quantity, stock limits, computed order

quantity, and extended order value at cost price. All quantities listed are expressed in purchase units of measure, and all order quantities are rounded to the nearest full-case multiple. At the top of each page, in addition to the run time and date, user identity code, and page number, the report title is printed including the Requisition Type Code of the items processed. Those stock items with a Special Inventory Code assigned are printed at the end of the list under a heading stating "Special Inventory Items . . . Review Order Quantities Carefully!"

Screen R05140505. The Excess Stock Management Report screen displays the following information for each stock item within the specified range computed to be stocked in excessive quantities: description, Requisition Type, Item, and Special Inventory Codes, purchase unit of measure, on-hand and on-order quantities, the number of months' supply, the excess quantity, and the extended value (at cost price) of those excess quantities. The items are displayed ten items per screen in the specified sequence, with the total value of all excess stock shown on the final screen. This list may be reviewed by pressing the ENTER key to display the next screen, PF Key 1 to redisplay the first screen, and PF Key 2 to redisplay the previous screen. By pressing PF Key 3, a hardcopy of the Excess Stock Management Report can be printed.

Excess Stock Management Report. The Excess Stock Management Report is printed in 132-column format for internal use in stock management. The report run date and time, and the

user identity code are included in the header along with the report title and page number. Separate columns are provided for department code, stock number, description, Requisition Type, Item, and Special Inventory Codes, purchase unit of measure, cost price, on-hand and on-order quantities, number of months' supply, excess quantity, and extended value (at cost price) of the excess quantity. Only those items within the specified range of departments or stock numbers whose on-hand plus on-order total exceeds forecasted demand for the specified number of months are listed. They are printed either in departmental or stock number sequence, fifty items per page, with the header repeated at the top of each page. The total value of all the excess stock is printed on the final page of the report.

Fleet Excess Stock List. This 80-column report is intended for distribution to other Navy ships and activities to advertise excess stock available for transfer. As in the other excess stock lists, the user specifies the number of months' supply constituting "excess," the range of departments or stock numbers to be processed, and whether the list will be printed in sequence by department or by stock number. The user is also given the opportunity to review and change the computed excess quantities before printing the list; if an excess quantity is changed to zero, it will be deleted from the list. For each stock item whose on-hand plus on-order balance exceeds forecasted demand, the following information is printed: stock number, description, purchase unit of measure, cost price, and

excess quantity. Forty-five items are printed on each page beneath the report header. In addition to the report title, the header includes the ship's name, hull number, and Unit Identification Code, and the preparation date.

Screen R03140S07. The Excess Stock List By Vendor displays the stock number, description, purchase unit of measure, cost price, excess quantity, and extended value (at cost price) for all the stock items last procured from each source of supply that are currently stocked in excess of forecasted demand. The vendor name and number specified are displayed at the top of each screen above as many as ten stock items. After the final item is displayed, the total value of all the excess stock procured from that vendor is shown, followed by the next vendor's listing. This information can be reviewed by pressing the ENTER key to display the next screen, PF Key 1 to redisplay the first screen, and PF Key 2 to redisplay the previous screen. Pressing PF Key 3 will print a copy of the Excess Stock List By Vendor.

Excess Stock List By Vendor. This 80-column report lists the quantities of all those stock items procured from each source of supply whose on-hand plus on-order balances exceed forecasted demand. As in all the excess stock lists, the user may specify the number of months' supply constituting "excess," the range of departments or stock numbers to be processed, and whether the list will be printed in sequence by department or by stock number. The following information is included for each of the forty-five stock items on each page: stock number,

description, purchase unit of measure, cost price, excess quantity, and value of the excess quantity at cost price. At the end of each vendor's list, the total value of all the excess stock procured from that vendor is printed. At the top of each page are printed the report title, run date, run time, user identity code, page number, and the name and Vendor Number from which the items listed were last procured. A new page is begun for each vendor who has stock included on the list.

Foreign Merchandise Inventory Count Sheet. This 80-column printout is intended for use in recording a physical inventory of foreign merchandise. Below the header printed at the top of each page are listed the stock number, description, location, retail unit of measure, and a quantity blank for every stock item in the Stock Record Master File with a Foreign Merchandise Requisition Type Code. All the items are printed in stock number sequence, double-spaced, with twenty-five items per page.

Foreign Merchandise Report. The Foreign Merchandise Report, required for submission to higher authority within forty days of departure from a deployment area, lists those items of foreign merchandise for which difficulty in liquidation is anticipated. The user must subjectively determine the stock items and quantities to be included on the list, entering those figures prior to printing this report. At the user's option, the report may also be printed with the Total Balance figure from each Stock Record Master listed as the quantity. For those items to be included, the following

information is printed: stock number, description, date of last receipt, purchase unit of measure, cost price, quantity, and value of that quantity at cost price. The total cost value of all the foreign merchandise included on the list is printed on the last page. Beneath the report title at the top of each page is a header listing the ship's name, hull number, and Unit Identification Code from the Retail Operations Constants File, and the report preparation date.

#### 4.5 Program Logic

Stock Record Master List. The Stock Record Master List function has been modified to permit the user to specify a particular category of stock items to be included on the list. If a category corresponding to one of the four Item Codes is selected, the system will sort all the Stock Record Masters to retrieve only those with the proper Item Code. If "Foreign Merchandise" is selected, then the system will sort on the Requisition Type Code, extracting all stock items with an "F" code. When no category is specified, this sorting function will not be performed. All other aspects of this function remain unchanged.

View Stock Records By Vendor. The View Stock Records By Vendor function is a new function that displays Stock Record information for all those stock items last procured from a particular vendor or Navy activity. The user enters the

previously established Vendor Number assigned to that source of supply, and the system sorts the entire Stock Record Master File to retrieve all those items with that Vendor Number. From each of these Stock Record Masters, six data elements are then included on the report. In addition, the name of the vendor or activity corresponding to the Vendor Number entered is extracted from the SSAC/Contract Vendor Maintenance File, and appears in the display heading. From this display the user may access individual Stock Record Masters in the View Mode by use of the same technique included in the View Stock Records For A Department function.

Stock Price List. The Stock Price List function allows the user to specify the range of departments or stock numbers to be included on the list, and to determine whether the list is printed in sequence by department or by stock number. When department sequence is chosen, the system sorts the Stock Record Master File by department code, screening out those records outside the specified range of departments. The remaining records are ordered first by department code, and then by stock number within each department before the appropriate data elements are printed. When stock number sequence is selected, the Stock Record File is ordered by stock number, discarding those records outside the specified range of stock numbers before the list is printed.

Stock Limits. The computation of stock limits requires the user to set several system parameters based on his judgment and experience. The first intermediate screen displays the

inclusive dates of the previous three accounting periods. The system retains the following data for each of those periods: total period sales for each stock item, average crew size for each month, and the actual number of days under way each month. The user must select one of the periods to be used as the basis for forecasting future demand. Once this selection has been made, the system reviews the file containing the under way days per month values to confirm that these values were previously entered for the period chosen. If one or more of those four data fields is blank, another intermediate screen will be displayed listing the month and year for which the data is missing, the monthly personnel on board figure, and a pseudobank for the entry of the days under way figure. Should data for more than one month be missing, the screen will be redisplayed until all the required information has been entered.

The next screen requires the user to indicate the ship's current status (CONUS or Deployed), and, if deployed, the number of months deployment remaining. Then, based on the ship's operational schedule, he must enter the estimated average number of personnel that will be on board through the end of the current period, and the estimated number of days per month that the ship will be under way through the end of the current period. Through the following screen, the user must estimate the Order and Shipping Time in days for each of the five sources of supply; a default value of one is assigned when no value is entered. The final intermediate screen permits the



user to specify a range of departments or stock numbers to be processed, and to determine whether the computed stock limits will be displayed for review in order by department or stock number. As in previous functions, the Stock Record Master File will be screened by department code and/or stock number in accordance with the range and sequence specifications. If no range is specified, all stock items will be processed.

The ROM System computes the historical demand (total sales) for each stock item at the end of each accounting period based on the formula:

$$\begin{array}{lcl} \text{Historical} & & \text{Beginning} \\ \text{Demand} & = & \text{Inventory} + \text{Receipts} - \text{Expenditures} - \text{Ending} \\ & & \text{Inventory} \end{array}$$

The system retains this information by date for one year. Two additional figures are now retained for each of the four months in each period:

$$\text{Monthly Crew Size} = \text{Average Number of Personnel Aboard the Ship During the Month}$$

$$\text{Monthly Days Under Way} = \text{Actual Number of Days Under Way During the Month}$$

Forecasts of future demand are based on this historical demand data from the accounting period specified, and on the estimates of the average crew size and average number of under way days per month for the current (forecast) period. This data is then combined as follows to compute forecasted demand for each item:

$$\text{Crew Factor} = \frac{\text{Forecast Period Average Crew Size}}{[\text{Total of 4 Historical Monthly Crew Sizes}] / 4.0}$$

$$\text{Operations Factor} = \frac{\text{Forecast Avg. Under Way Days Per Month} \times 4.0}{\text{Total of 4 Historical Monthly Days Under Way}}$$

$$\text{Forecast Demand} = \text{Ops Factor} \times [\text{Crew Factor} \times \text{Historical Demand}]$$

The Forecast Demand for each item is then used to compute the stock limits in accordance with the following algorithms:

$$\text{Low Limit} = \frac{\text{Forecast Demand}}{4.0} + [ \text{O\&ST} \times \frac{\text{Forecast Demand}}{120.0} ]$$

$$\text{High Limit} = \frac{3.0 \times \text{FD}}{4.0} + [ \text{O\&ST} \times \frac{\text{FD}}{120.0} ]$$

Basic Stock Items (Item Code "B"):

$$\text{Low Limit} = \frac{\text{FD}}{2.0} + [ \text{O\&ST} \times \frac{\text{FD}}{120.0} ]$$

Special Order Items (Item Code "Z"):

$$\text{Low Limit} = 0 \qquad \text{High Limit} = 0$$

When the ship's current status is CONUS, the following formulas will be applied to specially-coded stock items:

Deployed Load Items (Item Code "D"):

$$\text{Low Limit} = \frac{\text{FD}}{2.0} + \left[ \text{O\&ST} \times \frac{\text{FD}}{120.0} \right]$$

Foreign Merchandise (Requisition Type Code "F"):

$$\text{Low Limit} = 0 \qquad \text{High Limit} = 0$$

When the ship is deployed, the following formulas will be applied to specially-coded stock items:

Deployed Load Items (Item Code "D"):

$$\text{Low Limit} = 0$$

$$\text{High Limit} = \frac{\text{FD}}{4.0} \times \text{Months Deployment Remaining}$$

Foreign Merchandise (Requisition Type Code "F"):

$$\text{Low Limit} = \text{O\&ST} \times \frac{\text{FD}}{120.0} \qquad \text{High Limit} = \frac{3.0 \times \text{FD}}{4.0}$$

Foreign Merchandise (Requisition Type Code "F")  
 When Months Deployment Remaining  $\leq 3$ :

$$\text{Low Limit} = \text{O\&ST} \times \frac{\text{FD}}{120.0}$$

$$\text{High Limit} = \frac{\text{Months Deployment Remaining}}{4.0} \times \text{FD} - \left[ \text{O\&ST} \times \frac{\text{FD}}{120.0} \right]$$

The computed forecast demand and stock limits for each item are then displayed on the screen in the specified sequence for review. The user may change any of the stock limits displayed based on his own judgment, and, when satisfied with the values displayed, may direct the system to post the computed stock limits to the High Limit and Low Limit data fields on each Stock Record Master.

Reorder Quantities. Compute Order Quantities is a new function that compares the on-hand plus on-order total for each item with its stock limits to determine appropriate reorder quantities. On the first intermediate screen, the user must specify one of five possible sources of supply (corresponding to Requisition Type Codes) to be processed at a time, effectively limiting the batch size and processing time. The system then sorts the Stock Record Master File by Requisition Type Code, selecting only those records with the proper code for processing. Those items available through both the Contract Bulletins and the CARGO (Requisition Type Code "D") are automatically included for processing when either of those

two individual item categories is specified. All reorder computations are performed in department sequence, so the next screen permits the user to specify a range of departments to be processed, and to determine whether the items will be listed within departments in sequence by stock number or alphabetically by item description. This step introduces another sort by stock number and/or by item description.

The following screen requires the user to select whether the Bulkroom or the Total Balance figure from each Stock Record Master will be used as the on-hand quantity in the computations. He must also choose one of two possible order criteria for the computations. The first calculates a reorder quantity only for those items whose on-hand plus on-order total is less than or equal to their low limit. The second calculates reorder quantities for all items whose on-hand plus on-order total is less than their high limit.

Once this information has been entered, the ROM System computes reorder quantities using the following algorithms:

$$\text{Unit Ratio} = \frac{\text{Cost per Purchase Unit}}{\text{Cost per Retail Unit}}$$

$$\text{Stock} = \frac{\text{Bulkroom Balance}}{\text{Unit Ratio}} + \text{Outstanding Orders}$$

OR

$$\text{Stock} = \frac{\text{Total Balance}}{\text{Unit Ratio}} + \text{Outstanding Orders}$$

$$\text{If: Stock} \leq \frac{\text{Low Limit}}{\text{Unit Ratio}}$$

OR

$$\text{If: Stock} < \frac{\text{High Limit}}{\text{Unit Ratio}}$$

$$\text{Order Quantity in Purchase Units} = \frac{\text{High Limit}}{\text{Unit Ratio}} - \text{Stock}$$

$$\text{Order Quantity in Purchase Units and Case Multiples} = \frac{\text{Order Quantity}}{\text{Qty per Case}} \times \text{Qty per Case}$$

After these computations have been performed, the order quantities are displayed for review along with other information about each item from the Stock Record Masters. To facilitate this review, the system converts the Bulkroom Balances, Total Balances, and the stock limits to purchase units of measure by dividing each by the Unit Ratio, just as was done in the reorder computations. Through the screen display, the user may change any of the computed order

quantities, and then either print a copy of the display, or automatically prepare the requisitions or purchase orders necessary to procure that stock.

Order Document Preparation. After computing and reviewing order quantities, the user can select to prepare requisitions or purchase orders for those quantities. The standard RDM System Requisition and Purchase Order functions are used for this purpose, but with automatic data entry from the Compute Order Quantities function.

When the stock items processed were either CARGO or Navy Standard Stock items (Requisition Type Codes "C" or "N"), Screen R02010S01 will be displayed for the user to enter the requisition date, and to indicate whether the stock is to be requisitioned from CARGO, Navy Standard Stock, or another ship. If CARGO items, Screen R02010S02A will be displayed with the CARGO numbers and computed order quantities automatically listed for review. If Navy Standard Stock, Screen R02010S02 will appear with the stock numbers and computed order quantities listed for review. In both cases, Screen R02010S07A will then be displayed for the user to enter the appropriate MILSTRIP information, and to print a MILSTRIP Report. When the stock is to be requisitioned from another ship, Screen R02010S02B will require the user to enter the Unit Identification Code (Vendor Number) of that ship. Next, the stock numbers and computed order quantities will be displayed for review on Screen R02010S02. Finally, Screen R02010S07 will appear, displaying all DD Form 1149 header information; that

information pertaining to the user's ship is taken from the Retail Operations Constants File, and the other ship's information is extracted from the SSAC/Contract Vendor File based on the Vendor Number entered. Following review of this information, the DD Form 1149 can be printed.

When order quantities have been computed for stock available from the Contract Bulletins, Ships Store Afloat Catalog (SSAC), or a Navy Exchange overseas, Screen RD2000S01 will be displayed to record the purchase order date, and confirm the source of supply. Stock to be purchased through a Contract Bulletin or the SSAC will be sorted by Vendor Number since a separate purchase order will be required for each vendor. The first Vendor Number will be displayed on Screen RD2000S02A (Contract Bulletin) or Screen RD2000S02B (SSAC). Next, the stock numbers and computed order quantities corresponding to the first vendor will be automatically listed for review on Screen RD2000S03A or B. Then the appropriate information about that vendor will be retrieved from the SSAC/Contract Vendor File and inserted in the DD Form 1155 header fields on Screens RD2000S07, 8, and 9. After review, the purchase order may be printed. The system will then cycle back to Screen RD2000S02A or B to display the Vendor Number of the next vendor for which a purchase order is to be prepared. This process will continue until all the stock items for which order quantities were computed have been included on purchase orders.

To order foreign merchandise, the user must enter the Unit



Identification Code (Vendor Number) of the overseas Navy Exchange on Screen R02000S02D. The stock numbers and computed order quantities will be automatically listed on Screen R02000S03C for review, followed by the DD Form 1155 header information pertaining to the Navy Exchange on Screens R02000S07,8, and 9. The purchase order may then be printed.

Inventory Count Sheets. The initial Inventory Prelisting screen has been modified to offer the user two new methods to automatically prepare Inventory Count Sheets without having to enter each stock number. Both methods permit the user to print the count sheets in order either by department or by stock number, and to specify a particular range of departments or stock numbers to be included. Under the "Automatic" method, the Stock Record Master File is sorted in accordance with these range and sequence parameters, and is automatically prelisted and retained just as if the stock numbers had been entered manually. Additionally, each count sheet is consecutively serialized starting with the serial number specified on the initial screen. The "Special Inventory Code Items" method first sorts the Stock Record Master File to identify those stock items with a Special Inventory Code assigned. Then, these items are prelisted exactly as in the "Automatic" method.

Foreign Merchandise Report. The Foreign Merchandise Report Menu presents three functions to the user. The first function prints Inventory Count Sheets listing all items of foreign merchandise in stock number sequence. For this process, the

system screens the Stock Record Master File for all items with Requisition Type Code "F", which are then sequenced by stock number. The second function displays the stock numbers and descriptions of this stock in the same order, ten items per screen. In a pseudobank next to each item, the user enters the quantity to be printed on the Foreign Merchandise Report; a blank or zero quantity will cause the item to be deleted from the report. The third function automatically prints the same Foreign Merchandise Report, but with the Total Balance figure from each Stock Record Master listed as the quantity.

Excess Stock Lists. The Excess Stock Lists Menu permits the user to prepare an excess stock list in one of three different formats. The same formulas are used to compute this information in each case, so whichever format is selected, the same three intermediate screens will be displayed to record parameter values. The first screen requires the user to specify which of the three previous accounting periods' historical demand data will be used to forecast future demand. The user must also set the number of months' supply above which stock will be classified as excess. And finally, he must indicate whether the Bulkroom Balance or the Total Balance from each Stock Record Master will be used as the on-hand quantity in the computations.

The second screen requires the user to indicate whether the ship is currently in CONUS or deployed, and, if deployed, to enter the number of months deployment remaining. He next must estimate the average number of personnel that will be on

board through the end of the current accounting period. Then he must enter the estimated number of days per month that the ship is scheduled to be under way through the end of the current period. The third screen permits the user to select the sequence in which the excess stock will be listed (by department or stock number), and to specify a particular range of departments or stock numbers to be included in the list.

The ROM System computes the excess stock list information using the following formulas:

$$\text{Crew Factor} = \frac{\text{Forecast Period Average Crew Size}}{[\text{Total of 4 Historical Monthly Crew Sizes}] / 4.0}$$

$$\text{Operations Factor} = \frac{\text{Forecast Avg. Under Way Days Per Month} \times 4.0}{\text{Total of 4 Historical Monthly Days Under Way}}$$

$$\text{Forecast Demand} = \text{Ops Factor} \times \text{Crew Factor} \times \text{Historical Demand}$$

$$\text{Monthly Forecast Demand} = \frac{\text{Forecast Demand} / \text{Unit Ratio}}{4.0}$$

$$\text{Authorized Stock} = \text{Monthly Forecast Demand} \times \text{Number Months}$$

$$\text{Stock} = \frac{\text{Total Balance}}{\text{Unit Ratio}} + \text{Outstanding Orders}$$

OR

$$\text{Stock} = \frac{\text{Bulkroom Balance}}{\text{Unit Ratio}} + \text{Outstanding Orders}$$

$$\text{Months Supply} = \frac{\text{Stock}}{\text{Monthly Forecast Demand}}$$

$$\text{Excess Quantity} = \text{Stock} - \text{Authorized Stock}$$

$$\text{Excess Value} = \text{Excess Quantity} \times \text{Purchase Cost per Unit}$$

The Excess Stock Management Report lists only those stock items within the specified range whose on-hand plus on-order total exceeds the specified number of months' forecasted demand. The "On Hand" data field contains either the Bulkroom or Total Balance figure from the Stock Record Master, depending on the user's selection. The total value at cost price of all the excess stock listed is displayed after the final item. This report may be reviewed, ten items per screen, or printed with additional descriptive information included.

The Fleet Excess Stock List also includes only those items whose on-hand plus on-order total exceeds the specified number

of months' forecasted demand. The list may be reviewed on screen, and the computed excess stock quantities modified before printing.

The Excess Stock List By Vendor function sorts all the excess stock items by Vendor Number, preparing a separate list for each vendor. Based on that number, the vendor's name and Vendor Number are displayed at the top of each screen or page, and the total value of all excess stock procured from that vendor is displayed after the last item on the list.

Appendix B: Decision Support Functions Supplement  
to the Retail Operations Management System Handbook

General Information

This appendix contains new and replacement pages for the *Retail Operations Management System Handbook* which explain the use of all decision support functions being incorporated into the ROM System. The pages are printed in a format consistent with the original publication to facilitate reproduction. The number in brackets on the lower right corner of each page corresponds to the original publication numbering scheme.

Instructions

Remove the following pages from the *Handbook*:

Pages: i, 20, 24, 25, 49, 53

Insert all the enclosed pages sequentially into the *Retail Operations Management System Handbook*.

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If the stock number and CARGO number you have entered are not already on file, ROM will display a screen prompting you for detailed information about the stock item. Enter the Stock Nomenclature (Article) from the catalog or bulletin. This should be a description of the item, followed by the brand. For example, let us say that you are merchandising Himalayan Industries, Inc. "Ranger" backpacks. The stock number would be 271340-0028. The stock description would be entered as follows:

BACKPACK, HIMALAYAN IND., "RANGER" (RAMPAC CLOTH)

Notice that the type of item (BACKPACK) is listed first, followed by the manufacturer, followed by the model. This will insure that listings printed in alphabetic order by nomenclature will group all backpacks together. (You may only carry a few backpacks, but this approach will be important for items like cigarettes where you stock a larger number of brands.)

The account number field will already have a value of "51000", the same number you now have on your Stock Record Cards. You will be able to just TAB over this field unless you ever enter an item with a different account number (unlikely). The department code you enter will be taken from NAVRESSO Form MC/8. The code you enter must already have been established in your table of retail department codes.

The Requisition Type (Reqn Type) you enter will be based on how you order the new merchandise item. Use the following table to determine what code to enter:

- B - Contract Bulletin Item
- C - CARGO Item
- D - Item listed in BOTH Contract Bulletin and CARGO
- F - Foreign Merchandise Program Item
- S - Ships Store Afloat Catalog (SSAC) Item
- N - Navy Standard Stock Item available from NSC

Requisition Type Code "N" will be used primarily for Navy Standard Clothing Items.

The Item Code is used to identify special classes of merchandise. Codes should be assigned to items from the following list:

- B - Basic Stock Item
- D - Deployed Load Item
- T - Trial or New Item
- Z - Special Order Item

Many stock items will not fall into any of the four categories, in which case the Item Code should be left blank.



The final code to be assigned is the Special Inventory Code (Inv Code). This is an optional code used to identify those items stocked exclusively in the ship's store instead of in the bulk storeroom. For such items, computations using the Bulkroom Balance as the on-hand quantity would usually be invalid. By entering an "X" as the Special Inventory Code, you will highlight these items for special attention during processing. For most merchandise, this code will be left blank.

The Storage Location (Storage Loc) field is available for you to use in any way you want. This item is for your information only, and is not used by ROM. It will be displayed in this function and the ROM View function, and will be printed on the Stock Record Master List and the Inventory Count Sheets.

The rest of the screen is divided into two sections, and these need a little explaining at this point. One section is for information related to ordering or requisitioning the stock item; the other is for information related to selling the item and counting it for inventory purposes. Each section has a distinct unit of measure associated with it.

When you count a particular item of merchandise, you often have two different units of measure to count by. One unit of measure is the unit in which the item is ordered or requisitioned. The other is the unit in which the item is sold. Canned soda, for example, is ordered by the case, and therefore the order unit of measure would be "CSE" for case. It is usually sold by the can, so "CAN" would be the retail unit of measure. We will be talking about the order and retail units of measure a lot in the rest of this chapter.

Sometimes an item may be sold in several units of measure. Cigarettes, for example, may be sold by the pack and by the carton. When working with merchandise like this, you should always work in the SMALLEST unit of measure. In the example of cigarettes, always use the pack as the retail unit of measure. You should only work in cartons when you are ordering cigarettes.

### 5.2.2 Requisition and Order Information

The unit of measure in this section will be the unit in which you order or requisition the item. In the example of cigarettes, this would be carton, which you would abbreviate "CTN".

The Quantity Per Case should contain the number of order units of measure in each case or package, or the minimum order quantity imposed by the vendor. Continuing the cigarette example, there are either 30 or 60 cartons per case. Candy might be packaged 144 bars to the box. However, if the order unit of measure is case, the Quantity Per Case must be "1". For example, the order unit of measure for canned soda is case, so the Quantity Per Case is "1", not "24". If the vendor imposed a ten-case minimum order quantity, a "10" should be entered.

The Quantity On Order should be left zero. This quantity will automatically be increased as you enter purchase orders or requisitions for the new item.

The Cost Price you enter should be the price of one order unit. If cigarettes cost you \$4.50 per carton, enter 4.5000 including the decimal point. Do NOT enter dollar signs, cent signs, or commas in this field.

Enter the Cost Price Date in DDMMYY format where DD is the two-digit day of the month, MMM is the first three letters of that month, and YY is the last two digits of the year. For 1 December 1983, you would enter "01DEC83". If the day is less than "10", be sure you enter the zero in front of the day (01, 02, etc.). The Cost Price and Cost Price Date will automatically be updated when you enter a receipt for the item.

### 5.2.3 Issue/Selling and On-hand Information

The unit of measure in this section is the SMALLEST unit in which the item will be sold. For cigarettes, this would be "pack", and would be abbreviated PK, PAC, or PAK. (Abbreviations for units of measure are up to you, but to avoid confusion you should always try to use the same abbreviation for each unit.) All of the quantities in this section of the Stock Recors Master ADD screen will be in this unit of measure.

The On-hand Quantities for Bulkroom and Total should be left at ZERO. These will be updated automatically as you enter receipts, intra-store transfers, etc. On-hand quantities in ROM are always in the retail unit of measure.

You must set High and Low Limits for new stock items based on your estimates of demand, and on the guidance contained in Chapter 1, Part 5 of the *Ships Store Afloat Handbook* (NAVRESSO Publication Number 17). Enter the stock limits in retail units of measure. These quantities must be whole numbers; decimal points and commas are not allowed in these fields. The stock limits can later be automatically updated by performing the Set High and Low Limits Function.

You are not required to enter the Retail Price and Date, or the Cost Price (in Retail Units) when you add a new Stock Record Master. These fields will be updated automatically when you enter the information on the next receipt of the item. These fields are described here in case you wish to go ahead and enter them now. The Retail Price is the selling price for one retail unit in the Retail Price field. If cigarettes are sold for \$6.00 per carton (and \$.60 per pack), enter ".60", the price per pack. (Remember, you are using pack as the retail unit of measure.) The Retail Price Date is entered in the same format as the Cost Price Date.

### 5.6 Print Stock Record Master List

If you wish to print a list of all the items in stock and on order, press PF Key 1 on the ROM Master Menu, and PF Key 14 on the Stock Record Master Maintenance Menu. You will then be given the option of printing the entire inventory, or just certain categories of stock, such as basic stock items, foreign merchandise, or special order items. You may also choose to list the items in department, stock number, or alphabetical order. Finally, you may specify a range of departments or stock numbers to be listed.

### 5.7 Print Stock Record Labels

If you wish to print labels for all or selected items in stock and on order, press PF Key 1 on the ROM Master Menu, and PF Key 15 on the Stock Records Master Maintenance Menu. You may print the labels in department, stock number, or alphabetical order. To print the labels, you must replace the standard paper on the band printer you will be using with the label paper. When the label print is sent to the printer, the operator's terminal will display a message to change forms on the printer. The operator will position the cursor next to the message and press ENTER. At this point, ten lines can be printed to make sure the label paper is lined up correctly. After running the ten-line test, you can start the print beginning at line one.

### 5.8 Print Stock Price List

In order to print a Stock Price List for use by the store operator, press PF Key 1 on the ROM Master Menu, and PF Key 13 on the Stock Record Master Maintenance Menu. You may choose to list the merchandise in sequence by either department or stock number, and may also specify a particular range of departments or stock numbers to be included on the list.

### 5.9 View Stock Records By Vendor

ROM provides another function that displays all the stock items you last procured from a particular vendor. Included in the display are the item stock numbers, descriptions, stock limits, and both Bulkroom and Total Balances. This function is useful for reviewing inventory status during a salesman's visit to the ship. First press PF Key 1 on the ROM Master Menu, followed by PF Key 11 on the Stock Record Master Maintenance Menu. The next screen will prompt you for the Vendor Number corresponding to the vendor whose stock you wish to review. When the stock items are displayed, you may position the cursor next to any item and press PF Key 3 to display its Stock Record Master (VIEW Mode).

## 6.0 ORDERS AND REQUISITIONS

### 6.1 Introduction

The ROM System has provisions for printing both requisitions (DD Form 1149 or NAVSUP Form 1348) and purchase orders (DD Form 1155). We will use the term "orders" in this chapter to refer to both requisitions and purchase orders. Except for the NAVSUP Form 1348 (MILSTRIP List), orders will be printed on the pre-printed DD forms using the Wang word processing programs and the Daisywheel (typewriter quality) WP printer. You do not need to be familiar with Wang word processing in order to print these forms. The word processing programs will be executed automatically. ROM will ask you for the information it needs to print the order form with the same type of prompts you have seen so far. Once you have entered all the necessary information and indicated which order you want to print, you will only have to press two additional keys to actually print the order.

When you press PF Key 3 on the ROM Master Menu, the Requisitions / Purchase Orders Menu will be displayed. By selecting either "Requisitions" or "Purchase Orders" on this screen, you will then be presented a series of screens requesting the information required to prepare the appropriate order document. Either process requires that you first review stock levels, calculate order quantities, and batch the orders by vendor or source of supply. The third option presented on the menu is "Compute Order Quantities." This function automatically compares stock levels with stock limits, computes order quantities, sorts the items by source of supply, and completes the requisition or purchase order screens for review prior to printing the order documents. The process is described later in this chapter.

Because Requisition and Purchase Order printing use the Wang word processing programs, and generates something called a word processing document, only one person can work with this function at a time. When you select either "Requisitions" or "Purchase Orders" from the Order Menu, ROM will check to see if anyone else is already entering either type of order. If someone else is entering or printing orders, the following message will be displayed:

This function can only be performed  
from one workstation at a time.

The function is currently being  
performed at another workstation.

Please try again later.

If you see this message, press the ENTER key. This will return you to the ROM Master Menu. You can then check to see who else is entering orders, and when he will be finished. When the other person has finished entering and printing orders, reselect PF Key 3 from the ROM Master Menu, and try again.

## 6.2 Requisitions

### 6.2.1 The Requisition Menu

When you select "Requisitions" from the Requisitions/Purchase Orders Menu, ROM will ask you for the requisition date and the type of merchandise being requisitioned. Enter the date of the requisition in DDMMYY format, with DD the two-digit day of the month, MM the first three letters of that month, and YY the last two digits of the year. Then indicate whether the requisition is for CARGO items, Navy Standard Stock items, or merchandise from another ship (OSO) by keying an "X" in the pseudobank next to the appropriate title. Select ONLY ONE merchandise type.

If you are requisitioning items from another ship (OSO), a preliminary screen will appear prompting you for the ship's UIC number. The UIC number must be established in the Vendor Master File prior to requisitioning. Refer to section 6.3.1 for a detailed explanation of the Vendor Master File.

## 6.5 Compute Order Quantities

### 6.5.1 Entering the Data

When you select "Compute Order Quantities" from the Requisitions /Purchase Orders Menu, ROM will display the following five stock categories: Contract Bulletin, CARGO, Foreign Merchandise, SSAC, and Navy Standard Stock. ROM can compute order quantities for only one stock category at a time, so you must enter an "X" next to that category to be processed. Items listed in both the CARGO and in a Contract Bulletin will be automatically included with whichever of the two individual categories is chosen first.

Since the stock is processed in departmental sequence, the next screen allows you to specify a particular range of departments for which to compute order quantities. It also permits you to determine whether the order quantities will be displayed in stock number or alphabetical order within each department.

The following screen requires you to select either the Bulkroom or the Total Balance figure from the Stock Record Master to be used as the on-hand quantity in the computation of order quantities. Total Balance should be used only after the period inventory has been posted, and Bulkroom Balance at all other times. This screen also prompts you to choose the ordering rule to be used in the computations. The first choice is to reorder only those items whose on-hand plus on-order totals are less than or equal to their low limits. This is the usual method while in CONUS. The second choice will reorder all those items whose on-hand plus on-order totals are less than their high limits. This procedure would be effective before and during a deployment. In both cases, the items are ordered up to their high limits.

### 6.5.2 Reviewing the Order Quantities

ROM will then display the list of computed order quantities, along with the on-hand and on-order balances, stock limits, case lot size, and the Requisition Type, Item, and Special Inventory Codes for each item. All of these quantities are shown in purchase units of measure to simplify comparison. You should review these quantities carefully, especially those items with Special Inventory Codes (which will be listed separately). You may change any of the order quantities on this screen, but remember that all have been rounded to the nearest full case multiple; the changes you make should also be in case lot multiples. If you do not want to order an item, enter zeros or blanks in the order quantity pseudobank.

When you press PF Key 14 from this screen, a complete list of the computed order quantities will be printed. If you want to review this list further before preparing any orders, then press PF Key 16 to exit to the Requisitions/Purchase Orders Menu, and no orders will be posted. Using the information contained in the list, along with your own judgment and experience, you can determine the quantity of each item you actually want to order. At that time, you may return to the Requisitions/Purchase Orders function, and prepare individual order documents.

### 6.5.3 Automatic Order Preparation

If, after you have reviewed and modified the list of computed order quantities, you are ready to place orders for those items displayed, press PF Key 15. ROM will automatically transfer to either the Requisition or the Purchase Order function, and display the same sequence of screens that normally appears for those functions. The procedures for entering information on these screens are described in sections 6.2 and 6.4 of this chapter. The difference is that for purchase order merchandise, the items to be ordered will be sorted by their Vendor Numbers. ROM can then prepare a series of purchase orders to different vendors; as soon as one purchase order is prepared, a new screen will be displayed to begin preparation of the next document until all items on the list have been ordered.

Another difference is that the stock numbers and order quantities from the list of computed order quantities are automatically displayed on the appropriate screens. Similarly, the header information for each requisition or purchase order is also displayed automatically based on the Vendor Number and the information contained in the SSAC/Contract Vendor File. All of these entries may be reviewed and changed as necessary. Printing the requisitions or purchase orders is performed in accordance with paragraphs 6.2.3 and 6.4.3.



## 13.0 INVENTORY FUNCTIONS

### 13.1 Spot Inventory

ROM provides you with a quick and easy Spot Inventory function to post unannounced inventories in the bulk storeroom. To use the Spot Inventory function, press PF Key 10 on the ROM Master Menu, and PF Key 1 on the Inventory Menu. The Spot Inventory Menu will ask you for the date on which the spot inventory was taken. IT IS IMPORTANT THAT A SPOT INVENTORY SHOULD BE TAKEN AT THE BEGINNING OF THE DAY BEFORE ANY OTHER TRANSACTIONS ARE POSTED. This will insure the reliability of the on-hand quantities on the Stock Record Masters.

After entering the date, press ENTER. Key in the stock numbers of the first ten items inventoried and their preliminary quantities, and press ENTER. Continue this process until all items have been entered. Exit to the Spot Inventory Menu, and print a Spot Inventory Report, PF Key 14. Verify the inventoried quantities, and return to the first screen of inventoried items. You may modify any quantities at this point. If you wish to delete a line item, clear the quantity field on that line. Post the quantities to the Stock Record Masters by pressing PF Key 1. Continue this process until all items have been posted. At this point, exit to the Spot Inventory Menu and print a final Spot Inventory Report.

### 13.2 Monthly and Period Ending Inventories

For monthly and period ending inventories, PF Keys 2 through 8 on the Inventory Menu are used. Before taking inventory, it is necessary to clear out any previous inventory records in the ROM database. To do this, press PF Key 8 on the Inventory Menu. The next screen displayed will prompt you for the store number whose inventory records you wish to delete. Key in the first store number, and press ENTER. Continue this for each store that was inventoried the previous month.

#### 13.2.1 Inventory Prelisting

At this point you need to set up your prelistings. Press PF Key 2 on the Inventory Menu. The next screen displayed will prompt you for the number of the store that is to be inventoried, and the serial number of the page under which the items are to be listed. You must also select one of three prelisting methods: (1) Manual, (2) Automatic, or (3) Special Inventory Code Items.

If you choose the Manual procedure, you will notice that sequence numbers have been established for you on the next screen. These numbers are to represent the order in which the items are to be inventoried. These sequence numbers are modifiable if you find it necessary to change them. Enter the stock numbers of the items to be listed under the serial number you entered on the preliminary prelisting screen. After finishing the screen, press ENTER to post the prelisting entries. Continue this process until all stock numbers to be listed under the serial number specified previously are posted. Press PF Key 3 to exit to the preliminary prelisting screen to specify the serial number for the next page of entries. If necessary, you may insert an item between two items already posted. To do this, find the next available space, and key in a sequence number with a value between the sequence numbers of the two items already posted. Key in the stock number to be inserted by this new sequence number, and press ENTER. The new item will automatically be put in the correct order when the items are displayed again.

When you select the Automatic Prelisting method, the next screen will prompt you to choose whether the Inventory Count Sheets will be printed in sequence by department or by stock number. You may then specify a particular range of departments or stock numbers to be included on the count sheets. If no range is specified, then all stock items will be included except special order items. By pressing the ENTER key, Inventory Count Sheets will be printed listing all the stock items in the range and sequence you indicated. The first count sheet will be identified with the serial number you entered on the preliminary prelisting screen. The rest of the sheets will be serialized consecutively.

The third prelisting method functions exactly like the Automatic method, except that only those stock items within the specified range with a Special Inventory Code will be included on the Inventory Count Sheets. This function facilitates more frequent physical inventories of these special items to be used in setting their stock limits, and calculating reorder quantities. These special inventory quantities are for your management information only, and do not need to be posted back into the ROM System.

#### 14.6 Journal of Expenditures and the Journal of Receipts

To print the Journal of Expenditures (NAVSUP Form 978) and the Journal of Receipts (NAVSUP Form 977), press PF Key 5 on the Reporting Menu. The next screen displayed will prompt you for the number of the store which sells ONLY Navy Standard Clothing items. If you do not have such a store, leave the space blank. Press ENTER to continue.

#### 14.7 Ships Store Balance Sheet and Profit and Loss Statement

To print the Ships Store Balance Sheet and Profit and Loss Statement (NAVCOMPT Form 153), press PF Key 6 on the Reporting Menu. A screen will appear displaying the information to be printed on the Profit and Loss Statement. Make any necessary changes to the modifiable fields, and press ENTER so ROM can compute the totals. When all the figures are correct, press PF Key 14 to print the Balance Sheet and Profit and Loss Statement.

#### 14.8 Inventory Control Record

To print the Inventory Control Record, press PF Key 7 on the Reporting Menu. The next screen to appear will prompt you for the month ending date, your deployment status, the number of men aboard, and the number of under way days during the month. Press ENTER to continue. The following screen will prompt you for the number of months remaining in the deployment, and the dollar value of all NEX Foreign Merchandise currently on hand or on order. Press ENTER to continue.

#### 14.9 Inventory Management Report

ROM provides you with a management tool called the Inventory Management Report. This report supplies you with sales information for items in stock over the last year. To print the report, press PF Key 8 on the Reporting Menu. A screen will appear prompting you to specify the sequence requirements you would prefer. The report can be printed in department or stock number order, and for any range you specify.

#### 14.10 View Transaction Activity

If you wish simply to view all transactions currently on file in the ROM database (transactions for the current accounting period only), press PF Key 9 on the Reporting Menu.

#### 14.11 Excess Stock Lists

When you press PF Key 10 on the Retail Operations Reports Menu, the Excess Stock Lists Menu will be displayed. This screen permits you to prepare an Excess Stock Management Report, a Fleet Excess Stock List, or an Excess Stock List By Vendor. Although the format and purpose of each report is different, all three compute excess stock quantities in the same way. Whichever report is to be prepared, you must first provide the same information on the next three screens.

The first screen displays the dates of the last three accounting periods, and prompts you to select the period on whose sales history future demand will be computed. Although the most recent period usually provides the most accurate information, when the future operational tempo of the ship more closely resembles the tempo of an earlier period, that period might be a better choice. Next, enter the maximum number of months supply of merchandise you will allow on board; items stocked above this level will be classified as excess. For example, if you enter "4", only those items with an on-hand plus on-order total greater than four months' forecasted demand will be listed as excess. Finally, you must select whether the Bulkroom or the Total Balance will be used as the on-hand figure for this computation.

The next screen asks you to indicate the ship's current status (CONUS or Deployed), and the number of months deployment remaining. You must also enter estimates of both the average number of personnel on board, and the average number of under way days per month through the end of the current accounting period. On the following screen, you are prompted to specify whether the list will be printed in order by department or by stock number. You may also specify a particular range of departments or stock numbers to be included.

The Excess Stock Management Report may be prepared at any time, but is most accurate when printed at the beginning of each period when the Total Balance reflects the actual quantity on hand. This management tool clearly identifies those inventory items that are overstocked, and further displays the extended value of that excess stock. This information will assist you with decisions to mark down prices, transfer stock, and initiate surveys.

The Fleet Excess Stock List is a formal listing of your excess stock that you can distribute to the type commander, NAVRESSD Fleet Assistance Team, and other ships to encourage transfers of that stock. The list is first displayed on a screen for review, thus allowing you to change any of the computed quantities. By changing a quantity to zero or to a blank, that item will be deleted when the list is printed.

The Excess Stock List By Vendor is another management tool for identifying and disposing of excess stock. It sorts your excess stock by its source of supply, listing the stock from each vendor on a separate page. This list is especially useful in arranging stock returns and exchanges with those vendors.

#### 14.12 Foreign Merchandise Report

Pressing PF Key 11 on the Retail Operations Reports Menu will display the Foreign Merchandise Report Menu. This function is intended to produce the Foreign Merchandise Report that must be submitted forty days prior to departure from the deployment area. The first step in this process is to press PF Key 3. This will automatically print Inventory Count Sheets listing every item of foreign merchandise included in the Stock Record Master File. These sheets should be used to conduct a physical inventory of all foreign stock on board. Then, by pressing PF Key 4 on the Foreign Merchandise Report Menu, the stock number and description of each item will be displayed in the same sequence used on the Inventory Count Sheets. You should enter the actual inventory count of each item in the quantity blank provided, leaving blank those for items with zero balances.

If PF Key 3 is then pressed, a Foreign Merchandise Report containing the current on-hand quantities of all foreign stock will be printed. Since foreign merchandise is expensive, and requires special handling, this report would be a valuable tool for managing this stock during a deployment. However, the formal report to be submitted to higher authority should include only those items and quantities that you expect difficulty in liquidating before leaving the area. To prepare this report, a physical inventory should still be conducted to measure actual stock levels and demand. The inventory quantities should be entered, and a Foreign Merchandise Report printed for management use. You can then evaluate this report based on your judgment and experience to determine those quantities that should be reported. Once again press PF Key 4 on the Foreign Merchandise Report Menu, enter only those quantities you have decided to report, and press PF Key 3 to print the formal report.

All foreign merchandise is inventoried during the end-of-period close-out, and the actual on-hand balances posted to the Stock Record Masters. By pressing PF Key 5 on the Foreign Merchandise Report Menu, the report will be printed listing the Total Balance figures from the Stock Record Masters as the on-hand quantities. This function should be run after each close-out during deployment to provide management information, and also to help prepare the formal report whenever the reporting date coincides with the end of the accounting period.

## 17.0 SET HIGH AND LOW LIMITS

### 17.1 Introduction

The ROM System uses high and low limits to determine when and how much of each stock item to reorder. To be accurate, the stock limits should normally be recalculated at the beginning of each accounting period to reflect the most recent demand data. They should also be updated before and after each deployment when the largest changes in demand occur.

The ROM System can compute new stock limits at any time. It does so by forecasting future demand based on the historical demand period that you specify, and on your estimates of future crew size, operating tempo, and order and shipping times. These computed stock limits may not be accurate for new merchandise without historical demand data, or for those items whose demand was affected by long stockouts or large price markdowns. For such stock items, you should review and modify the computed high and low limits as necessary.

### 17.2 Entering the Variables

When you press PF Key 17 on the ROM Master Menu, the dates of the previous three accounting periods will be displayed. You must choose that period whose historical demand data will be used to forecast future sales. While the most recent period is usually the most accurate measure of demand, you should also attempt to select that period whose operating tempo and crew size most nearly resemble the current period.

If any of the under way days per month figures from the period you specified are missing from the ROM database, the next screen will prompt you to enter those values. The following screen will ask you to indicate the ship's current status (CONUS or Deployed), and the number of months deployment remaining. You then must enter an estimate of the average number of personnel that will be aboard the ship through the end of the current accounting period. If you expect large numbers of personnel to embark or debark during the period, you should use a weighted average to calculate this value. Finally, you must also estimate the average number of under way days PER MONTH for the remainder of the period. This figure should be based on the ship's operational schedule.

The next screen requires you to estimate the order and shipping time for each of the five sources of supply. For each, this value is the average number of days between the submission of a requisition or purchase order, and the receipt on board of the item. While in homeport, most orders can be filled in a single day. However, overseas the delivery can take well over a month. You should base these figures on the ship's location and schedule, and on your own judgment and experience.

The final intermediate screen allows you to specify whether the computed stock limits will be displayed for review in sequence by department or by stock number. You may also select a specific range of departments or stock numbers for which stock limits will be computed.

### 17.3 Reviewing and Posting the Stock Limits

Once you have entered all the required information, ROM will display the computed high and low limits for the items specified. The screen also displays the description, Requisition Type, Item, and Special Inventory Codes, the historical demand from the three previous periods, and the forecasted demand for each item. You should review this list carefully, and change those stock limits that in your judgment are too high or too low. In particular, the historical demand for a new item will be zero or very low, so you should increase the computed stock limits.

After you have finished reviewing and modifying the computed high and low limits, press PF Key 3. This will post the new stock limits to the Stock Record Masters, and return you to the ROM Master Menu.

Appendix C: *Decision Support Functions Supplement*  
to the *Retail Operations Management System User's Guide*

General Information

This appendix contains new and replacement pages for the *Retail Operations Management System User's Guide* which explain the use of the decision support functions being incorporated into the ROM System. The pages are printed in a format consistent with the original publication to facilitate reproduction. The number in brackets on the lower right corner of each page corresponds to the original pagination scheme.

Instructions

Remove the following pages from the *User's Guide*:

Pages: 6, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18,  
19, 20, 21, 22, 23, 28, 29, 37, 38, 43,  
44, 50, 51, 84, 221, 222, 233, 247, 248

Report Layouts:

"Stock Record Master List - Department Sequence"

"Stock Record Master (NAVSUP 464)"

Insert all the enclosed pages sequentially into the *Retail Operations Management System User's Guide*.



RD00001S01

27 JUL 84  
10:45

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RETAIL OPERATIONS MANAGEMENT MASTER MENU

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PF 1	ADD/MODIFY/DELETE STOCK RECORD CARDS (NAVSUP 464)
PF 2	VIEW STOCK RECORD CARDS (NAVSUP 464)
PF 3	REQUISITIONS / PURCHASE ORDERS
PF 4	RECEIPT FUNCTIONS
PF 5	RETAIL PRICE CHANGE
PF 6	SURVEY
PF 7	INTRA-STORE TRANSFER (NAVSUP 973)
PF 8	CASH RECEIPTS
PF 9	VENDING MACHINE CONTROL / AMUSEMENT MACHINES
PF 10	INVENTORY
PF 11	REPORTING
PF 12	UPDATE RETAIL OPERATIONS CONSTANTS
PF 13	SSAC / CONTRACT VENDOR MAINTENANCE
PF 14	MISCELLANEOUS EXPENDITURE ACTIVITY
PF 15	TRANSACTION / PRICE CHANGE CORRECTIONS
PF 16	EXIT
PF 17	SET HIGH AND LOW LIMITS
PF 18	ROM DATA BACKUP / RESTORE
PF 32	ON-LINE OPERATIONS GUIDE

RD1000S01

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STOCK RECORD MASTER MAINTENANCE

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STOCK NUMBER                      CARGO ITEM NUMBER

\*\*\*\*\*                      1Q-0000-NR-000-\*\*\*\*

To add an item, key in the Stock Number and CARGO Item Number (if applicable).  
To access an existing item, key in the Stock Number OR the CARGO Item Number.  
Then select the desired function from the menu below.

PF KEY	FUNCTION
PF 1	ADD a new Stock Record Master
PF 3	MODIFY an existing Stock Record Master
PF 5	DELETE an existing Stock Record Master
PF 11	VIEW Stock Records by Vendor
PF 12	VIEW Stock Records for a Department
PF 13	PRINT a Stock Price List
PF 14	PRINT a Stock Record Master List
PF 15	PRINT Stock Record Labels
PF 16	EXIT to ROM Master Menu

## GENERAL DESCRIPTIVE INFORMATION FOR SCREEN R01000S01

### STOCK RECORD MASTER MAINTENANCE

This function allows the user to access existing Stock Master records for modification or deletion, or to add new Stock Master records for stock numbers not currently on file in the Retail Operations database.

Existing Stock Record Masters may be accessed by entering either the stock item number, or the last four digits of the CARGO item number. (The first 15 digits of the CARGO number displayed on screen R01000S01 are taken from the ship's Retail Operations Constants Record.) The stock number MUST be keyed in if a new stock item is being ADDED. After keying the stock number or CARGO item number, the user should press PF Key 1 to add a new Stock Record Master, PF Key 3 to view and/or modify an existing Stock Record Master, or PF Key 5 to delete an existing Stock Record Master.

By pressing PF Key 13, the user can print a Stock Price List for a specific range of departments or stock numbers. It is not necessary to enter a stock number to perform this function.

A Stock Record Master List may be printed by pressing PF Key 14. The user may specify a category of items to be included, or may list the entire inventory. It is not necessary to enter a stock number to perform this function.

Stock Record Labels may be printed by pressing PF Key 15. It is not necessary to specify a stock number to perform this function.

By selecting PF Key 12, the user may view a list of all stock items for a single department, or all stock items on file. This display includes the stock number, CARGO item number, description, and current bulkroom on-hand quantity.

#### NOTE:

This function is particularly useful for viewing and modifying a series of Stock Record Masters. When the list of stock records is being displayed, the user may position the workstation cursor next to any item and press PF Key 3 to access the detail information for that item in MODIFY mode. After the detail information has been modified, the stock record list is redisplayed.

## FIELD DESCRIPTIVES FOR SCREEN R01000S01

### Stock Record Maintenance - Stock Number

A code containing up to 16 characters, which uniquely identifies each Retail Operations stock item carried aboard ship. This number must be entered if a new Stock Record Master Record is being added. If an existing item is being modified or deleted, this field may be left blank when the CARGO item number is entered by the user on screen R01000S01.

EDIT REQUIREMENTS: When adding a new stock item, the number must not exist in the ROM Database. When modifying an item, the number must be exactly the same as the item's identifying stock number.

### Stock Record Master Maintenance - CARGO Number

The four-digit suffix of the stock item's identifying number in the Consolidated Afloat Requisitioning Guide Overseas List. If a CARGO item is being added, this number should be entered. If an existing item is being modified or deleted, this field may be left blank when the Stock Number is entered by the user on screen R01000S01.

EDIT REQUIREMENTS: When adding a new stock item, the number must not exist on file. When modifying or deleting an item, the number must be exactly the same as the item's identifying stock number. This field should always be left blank for non-CARGO items.

RD1000S02

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STOCK RECORD MASTER

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ADD MODE

Stock Number      CARGO      Stock Nomenclature (Article)      \*\*\*\*\*

051110-0005      \*\*\*\*      \*\*\*\*\*

Account      Dept Code      Reqn Type      Item Code      Inv Code      Storage Loc      \*\*\*\*\*

51000      \*\*      \*      \*      \*      \*\*\*\*\*

-----REQUISITION AND ORDER INFORMATION-----

! Unit of Meas      Quantity      On Order      Cost      Price      Date      Cost Price      Vendor      :

! For Reqn/Ord      Per Case      \*\*\*1      \*\*\*\*0      \*\*\*\*\*      DDDMMYY      \*\*\*\*\*      Number      :

!      \*\*\*      \*\*\*\*\*      \*\*\*\*\*      \*\*\*\*\*      \*\*\*\*\*      \*\*\*\*\*      \*\*\*\*\*      \*\*\*\*\*      :

-----ISSUE / SELLING AND ON-HAND INFORMATION-----

! Unit of Meas      On-Hand      Quantity      Low      High      Retail      Ret Price      Cost      :

! For Sales,O/H      Bulkroom      Total      Limit      Price      Price      Date      Price      :

!      \*\*\*      \*\*\*\*\*      \*\*\*\*\*      \*\*\*\*\*      \*\*\*\*\*      \*\*\*\*\*      DDDMMYY      \*\*\*\*\*      :

PF KEY      FUNCTION

-----

ENTER      ADD new Stock Record Master

PF 1      RESPECIFY Stock Number - DO NOT ADD this Stock Record

PF 16      EXIT to ROM Master Menu - DO NOT ADD this Stock Record

## GENERAL DESCRIPTIVE INFORMATION FOR SCREEN R01000S02

### STOCK RECORD MASTER, GENERAL DATA

This screen allows the user to enter general descriptive and quantitative information about the stock item being added. A department code, requisition type, requisition unit of measure, and cost price are required when adding a new record. All other information is optional, but should be entered if known.

Note that quantitative information (quantities, prices, etc.) is divided into two blocks. The first block, headed REQUISITION AND ORDER INFORMATION, contains the requisition unit of measure. The quantity per case, quantity on order, and cost price shown in this block are expressed in the requisition unit of measure. Similarly, the second block, headed ISSUE / SELLING AND ON-HAND INFORMATION, contains the retail unit of measure used for expenditures, sales, and inventory quantities. All quantities and prices in this block are expressed in the retail unit of measure.

EXAMPLE: Canned drinks are ordered by the case. Each case contains 24 cans and costs \$2.40. The order unit of measure would be "CS" or "CSE", the order cost would be "2.40", and the quantity on order, if entered, would be the number of cases for which outstanding orders were pending. Because the order unit of measure is already case, the quantity per case would be "1".

Canned drinks are sold by the can, so the unit of measure for sales would be entered as "CN" or "CAN". The bulkroom and total on-hand quantities, and the high and low limits would be in cans. The retail price would be the price per can, \$.30 for example. The cost price in the ISSUE/SELLING block would be the cost price per can and NOT the cost price per case. The ISSUE/SELLING cost price can be derived by dividing the cost price per order unit of measure (\$2.40 per case) by the number of retail units in each order unit (24 cans per case) as follows:

$$\$2.40 / 24 = \$.10 = \text{Cost Price per Retail Unit}$$

When adding a new item, it is not necessary to enter the quantity on order, or the bulkroom and total on-hand quantities. These quantities will be updated automatically as purchase orders or requisitions, receipts, expenditures, and other stock activity transactions are entered into the ROM System.

## FIELD DESCRIPTIVES FOR SCREEN R01000S02

### Stock Record Master - Nomenclature (Article)

A descriptive name of the stock item containing up to 55 characters. The type of item should be entered first, followed by the manufacturer, and the specific model.

EDIT REQUIREMENTS: None

### Stock Record Master - Account

The Navy Stock Fund Account Number applicable to the item.

EDIT REQUIREMENTS: Must be a five-digit number; default value is "51000."

### Stock Record Master - Department Code

The two-character code for the department of the stock item.

EDIT REQUIREMENTS: Must be a valid department previously entered into the ROM Database. Departments may be added to the ROM Database using ROM Master Menu function (PF) 12, "Update Retail Operations Constants" and then selecting Retail Operations Constants Menu function (PF) 4, "Maintain Retail Department Codes."

### Stock Record Master - Requisition/Order Type

A one-character code which indicates the channels through which the stock item may be procured. Valid codes are as follows:

- B - Item is listed in the Contract Bulletin
- C - CARGO Item
- D - Item is available through both the Contract Bulletin and the CARGO
- F - Item is listed in the Foreign Merchandise Bulletin
- S - Item is listed in the Ships Store Afloat Catalog (SSAC)
- N - Item has a National Stock Number (NSN) and is available from NSC (such as Navy Standard Clothing items)

**EDIT REQUIREMENTS:** Must be one of the valid codes listed above; may not be left blank.

#### **Stock Record Master - Item Code**

A one-character code which identifies the special stock status of an item. Valid codes are as follows:

- B** - Basic Stock Item. A popular or essential item available through the CARGO
- D** - Deployed Load Item. A popular or essential item not listed in CARGO which must be stocked to last for an entire deployment
- T** - Trial or New Item. Procured in a limited quantity to measure crew demand
- Z** - Special Order Item. Not to be stocked

**EDIT REQUIREMENTS:** Must be one of the valid codes listed above, or may be left blank.

#### **Stock Record Master - Special Inventory Code**

A one-character code that identifies those stock items for which automatic computation of stock limits and order quantities may not be appropriate. Primarily, these will be those items stocked in the store rather than in the bulk storeroom for which the Bulkroom Balance figure will not reflect actual usage. The code can also identify items whose demand has been significantly influenced by price changes and stockouts, as well as slow-movers to be eliminated from stock.

**EDIT REQUIREMENTS:** May be any letter, or left blank. An "X" may be used to identify all such items, or a multi-code system may be developed locally to provide additional information. For example, an "M" for markdowns in price, and an "S" for stockouts.

#### **Stock Record Master - Storage Location**

The location in which the largest quantity of the stock item is usually stored. This may be a bin number or row number in the bulk storeroom. Any system of storage location identification developed by the ship's personnel may be used, provided that storage locations can be uniquely identified in ten characters.

**EDIT REQUIREMENTS:** None



#### Stock Record Master - Unit of Measure for Requisitions/Orders

A three-character abbreviation for the units in which the stock item is measured when the item is ordered from a vendor or requisitioned from NSC or CARGO. For example, EA, CN, CTN, PKG.

EDIT REQUIREMENTS: Any combination of one, two, or three letters is acceptable, but the field may not be left blank.

#### Stock Record Master - Quantity Per Case

The minimum order quantity or the number of units in the package size most often procured. This figure, in the requisition/order unit of measure, is most often the case count for low-cost items, and "1" for luxury items. When the requisition/order unit of measure is case, this value should be "1".

EDIT REQUIREMENTS: Must be a whole number between 1 and 9999. Decimal points and commas are not allowed. The default value is "1".

#### Stock Record Master - On Order Quantity

The total quantity of this item found on all outstanding requisitions or orders, in requisition/order units of measure. This field will normally be left at zero (0) when a new item is being added. Entry of a requisition or purchase order into the ROM System will automatically increase this field by the quantity ordered.

EDIT REQUIREMENTS: Must be a whole number between 0 and 99999. Decimal points and commas are not allowed.

#### Stock Record Master - Cost Price

The cost, per requisition/order unit of measure, of the stock item when the item was last acquired. This figure will be entered and updated automatically each time a receipt is entered into the ROM System.

EDIT REQUIREMENTS: Must be a non-zero numeric value between .0001 and 9999.9999. Commas and dollar signs are not allowed.

#### Stock Record Master - Cost Price Date

The date that the stock item was last received on board from any supply source. This date should only be entered during the original RDM System implementation aboard ship since it is automatically posted and updated each time a receipt is entered into the system.

EDIT REQUIREMENTS: Must be a valid date in DDMMYY format where DD is a two-digit day of the month, MMM is the first three letters of that month name (JAN, FEB, etc.), and YY is the last two digits of the year. May also be left unchanged, that is "DDMMYY."

#### Stock Record Master - Vendor Control Number

The unique six-character number that identifies the commercial vendor or Navy activity from which the stock item was last procured. Contract Bulletin vendors are identified by the last four digits of their annual contract. Vendors listed in the Ships Store Afloat Catalog are identified either by a Vendor Code Number printed in the SSAC, or, when that number is not printed, by a three-digit number assigned locally by ship's personnel. Navy ships and activities are identified by their one-letter Service Designator and five-digit Unit Identification Codes. These numbers must be entered through the SSAC/Contract Vendor Maintenance function before a requisition or purchase order can be prepared. They should be entered on the Stock Record Masters only during the initial RDM System implementation on the ship. After that, the number will be updated automatically every time a receipt is posted.

EDIT REQUIREMENTS: May be left blank, or contain any combination of letters and numbers up to six characters in length.

#### Stock Record Master - Unit of Measure for Sales and Inventory

A three-character abbreviation for the units in which the item is measured for purposes of sales, bulk sales, sales to the EDF, issues to ship's use, health and comfort issues, transfers to other supply officers, surveys, markdowns, inventories, spot inventories, high and low limits, and stock balances. All on-hand quantities displayed in the Retail Operations Management System are in this unit of measure.

EDIT REQUIREMENTS: Any combination of one, two, or three letters is acceptable, but the field may not be left blank.

NOTE: This unit of measure may be the same as the unit of measure for requisitions/orders if the item is ordered and sold in the same unit of measure.

#### Stock Record Master - Quantity On Hand - Bulkroom

The quantity of the stock item currently on hand in the bulk storeroom, in the Sales/Inventory Units of Measure. This quantity should only be entered for a new item when the Retail Operations Management System is first being implemented aboard ship. The quantity will automatically be increased by entry of receipts into the ROM System, and will be reduced by entry of bulk sales, intra-store transfers, spot inventories, closing inventories, sales to the EDF, issues to ship's use, health and comfort issues, transfers to other supply officers, surveys, and markdowns to zero for store 99 (the bulk storeroom).

EDIT REQUIREMENTS: Must be a whole number between 0 and 99999. Decimals and commas are not allowed. For example, 12.5 and 2,321 would both be invalid.

#### Stock Record Master - Quantity On Hand - Total

The quantity of the stock item currently on hand in all locations, in Sales/Inventory Units of Measure. This quantity should only be entered for a new item when the Retail Operations Management System is first being implemented aboard ship. The quantity will automatically be increased by entry of receipts into the ROM System, and will be reduced by entry of expenditures, surveys, bulk sales, issues, transfers to other supply officers, markdowns to zero, and inventories. This field is unaffected by intra-store transfers.

EDIT REQUIREMENTS: Must be a whole number between 0 and 99999. Decimals and commas are not allowed. For example, 10.5 and 2,321 would be invalid.

#### Stock Record Master - Low Limit

The stock level of this item in sales units of measure that signals the need to initiate replenishment action. It includes the sum of stocks represented by the safety level and the order and shipping time as described in Chapter One, Part Five of the *Ships Store Afloat Handbook*. This quantity should be entered on the Stock Record Master only for new stock items, and during the initial system implementation. The Low Limit will normally be posted and updated automatically by executing the Set High and Low Limits function.

EDIT REQUIREMENTS: Must be a whole number between 0 and 99999. Decimals and commas are not allowed. The default value is "0".

#### Stock Record Master - High Limit

The maximum quantity of this item in sales units of measure to be maintained on hand and on order to sustain current operations. It includes the sum of stocks represented by the operating level, the safety level and the order and shipping time as described in Chapter One, Part Five of the *Ships Store Afloat Handbook*. This quantity should be entered on the Stock Record Master only for new stock items, and during the initial system implementation. The High Limit will normally be posted and updated automatically by executing the Set High and Low Limits function.

EDIT REQUIREMENTS: Must be a whole number between 0 and 99999. Decimals and commas are not allowed. The default value is "0".

#### Stock Record Master - Retail Price

The price for which each sales unit of this item is to be sold. This field should generally only be entered when a new item is added. The retail price will automatically be modified whenever a retail price change is entered into the ROM System. A new retail price may also be computed and modified by the user when a receipt for this item is entered.

EDIT REQUIREMENTS: Must be a number between .01 and 9999.99. Commas and dollar signs (\$) are not allowed.

#### Stock Record Master - Retail Price Date

The date that the current retail price was established. This date should normally be entered only during the initial system implementation since the date will be updated automatically every time that the system processes a retail price change or stock receipt.

EDIT REQUIREMENTS: Must be a valid date in DDMMYY format where DD is a two-digit day of the month, MMM is the first three letters of that month name (JAN, FEB, etc.), and YY is the last two digits of the year. May also be left unchanged, that is "DDMMYY."

#### Stock Record Master - Cost Price in Sales Units of Measure

The cost, per sales/inventory unit of measure, of the stock item when the item was last acquired. This value will normally be entered only during the initial system implementation since it is automatically computed and posted each time that a receipt is processed.

EDIT REQUIREMENTS: Must be a non-zero numeric value between .0001 and 9999.9999. Commas and dollar signs (\$) are not allowed.

RD1000S03

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STOCK RECORD MASTER

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MODIFY MODE

Stack Number                      CARGO                      Stock Nomenclature (Article)  
051110-0005                      0957                      Soda, 7UP\*\*\*\*\*  
Account                      Dept Code                      Reqn Type                      Item Code                      Inv Code                      Storage Loc  
51000                      K4                      D                      B                      \*                      \*\*\*\*\*

-----REQUISITION AND ORDER INFORMATION-----

: Unit of Meas                      Quantity                      On Order                      Cost                      Price                      Date                      Cost Price                      Vendor  
: For Reqn/Ord                      Per Case                      \*\*\*1                      \*\*\*69                      \*\*\*4.3200                      27MAY83                      \*\*0223  
: CS#

-----ISSUE / SELLING AND ON-HAND INFORMATION-----

: Unit of Meas                      On-Hand Quantity                      Low High                      Retail                      Ret Price                      Cost  
: For Sales,O/H                      Bulkroom                      Total                      Limit                      Price                      Date                      Price  
: CN#                      \*\*2424                      \*\*5784                      \*2880                      \*4320                      \*\*\*\*.25                      27MAY83                      \*\*\*\*.1800

PF KEY                      FUNCTION

ENTER                      POST the Stock Record changes entered above  
PF 1                      RESPECIFY Stock Number - DO NOT MODIFY this Stock Record  
PF 3                      Display Detail Ledger  
PF 5                      Display Outstanding Orders and Requisitions  
PF 16                      EXIT to ROM Master Menu - DO NOT MODIFY this Stock Record

# GENERAL DESCRIPTIVE INFORMATION FOR SCREEN R01000S03

## STOCK RECORD MASTER, GENERAL DATA

This screen allows the user to change the descriptive and quantitative information in an existing Stock Record Master. The department code, requisition type, requisition unit of measure, and cost price may not be blanked out. Any other field may be changed to spaces or zeros as required.

Note that quantitative information (quantities, prices, etc.) is divided into two blocks. The first block, headed REQUISITION AND ORDER INFORMATION, contains the requisition unit of measure. The quantity per case, quantity on order, and cost price shown in this block are expressed in the requisition unit of measure. Similarly, the second block, headed ISSUE / SELLING AND ON-HAND INFORMATION, contains the retail unit of measure used for expenditures, sales, and inventory quantities. All quantities and prices in this block are expressed in the retail unit of measure.

EXAMPLE: Canned drinks are ordered by the case. Each case contains 24 cans and costs \$2.40. The order unit of measure would be "CS" or "CSE", the order cost would be "2.40", and the quantity on order, if entered, would be the number of cases for which outstanding orders were pending. Because the order unit of measure is already case, the quantity per case would be "1".

Canned drinks are sold by the can, so the unit of measure for sales would be entered as "CN" or "CAN". The bulkroom and total on-hand quantities, and the high and low limits would be in cans. The retail price would be the price per can, \$.30 for example. The cost price in the ISSUE/SELLING block would be the cost price per can and NOT the cost price per case. The ISSUE/SELLING cost price can be derived by dividing the cost price per order unit of measure (\$2.40 per case) by the number of retail units in each order unit (24 cans per case) as follows:

$$\$2.40 / 24 = \$.10 = \text{Cost Price per Retail Unit}$$

This function should not ordinarily be used to change the bulkroom and total on-hand quantities, or the quantities on order. These quantities are maintained automatically during entry of requisitions, receipts, and other stock activity transactions. When the Set High and Low Limits Function (PF 17) is used to set the stock limits, those two figures should not normally be changed on this screen. Similarly, the cost prices and retail price should not be modified, as they are maintained by entering receipt transactions. If an error is made in the entry of a receipt, the error must be corrected in the receipt using the Transaction Correction Function (PF 15) of the ROM Master Menu. If a retail price must be changed, the Retail Price Change Function (PF 5) of the Master Menu should

be used. Both these functions will automatically correct the erroneous information in the Stock Record Master.

Make all necessary changes and press ENTER to save the modified information in the ROM database. If changes have been keyed in error and you wish to exit without changing the Stock Record Master in the ROM database, press PF Key 1 to return to screen R01000S01, or press PF Key 16 to return to the Retail Operations Management Master Menu.

NOTE:

CHANGES KEYED ON THE SCREEN WILL NOT BE  
SAVED UNLESS THE ENTER KEY IS PRESSED.

To respecify the stock number or CARGO number of the item to be modified, or to respecify ADD, DELETE, VIEW BY DEPARTMENT, or PRINT MASTER LIST, press PF Key 1. Remember to first press the ENTER key if changes have not yet been saved.

To view or print the Detail Transaction Ledger for this stock number, press PF Key 3. To view or print Outstanding Requisitions, press PF Key 5.

FIELD DESCRIPTIVES FOR SCREEN R01000S03

Stock Record Master - CARGO Item Number

The last four digits of the CARGO (*Consolidated Afloat Requisitioning Guide Overseas*) Number which uniquely identifies certain stock items aboard ship.

EDIT REQUIREMENTS: If modified, the new CARGO Number must not have been previously used to identify any other stock item in the ROM database. This edit check is not performed if the new CARGO Number is left blank.

Stock Record Master - Nomenclature (Article)

A descriptive name of the stock item containing up to 55 characters. The type of item should be entered first, followed by the manufacturer, and the specific model.

EDIT REQUIREMENTS: None

Stock Record Master - Account

The Navy Stock Fund Account Number applicable to the item.

EDIT REQUIREMENTS: Must be a five-digit number; default value is "51000."



### Stock Record Master - Department Code

The two-character code for the department of the stock item.

EDIT REQUIREMENTS: Must be a valid department previously entered into the ROM Database. Departments may be added to the ROM Database using ROM Master Menu function (PF) 12, "Update Retail Operations Constants" and then selecting Retail Operations Constants Menu function (PF) 4, "Maintain Retail Department Codes."

### Stock Record Master - Requisition/Order Type

A one-character code which indicates the channels through which the stock item may be procured. Valid codes are as follows:

- B - Item is listed in the Contract Bulletin
- C - CARGO Item
- D - Item is available through both the Contract Bulletin and the CARGO
- F - Item is listed in the Foreign Merchandise Bulletin
- S - Item is listed in the Ships Store Afloat Catalog (SSAC)
- N - Item has a National Stock Number (NSN) and is available from NSC (such as Navy Standard Clothing items)

EDIT REQUIREMENTS: Must be one of the valid codes listed above; may not be left blank.

### Stock Record Master - Item Code

A one-character code which identifies the special stock status of an item. Valid codes are as follows:

- B - Basic Stock Item. A popular or essential item available through the CARGO
- D - Deployed Load Item. A popular or essential item not listed in CARGO which must be stocked to last for an entire deployment
- T - Trial or New Item. Procured in a limited quantity to measure crew demand
- Z - Special Order Item. Not to be stocked

EDIT REQUIREMENTS: Must be one of the valid codes listed above, or may be left blank.

### Stock Record Master - Special Inventory Code

A one-character code that identifies those stock items for which automatic computation of stock limits and order quantities may not be appropriate. Primarily, these will be those items stocked in the store rather than in the bulk storeroom for which the Bulkroom Balance figure will not reflect actual usage. The code can also identify items whose demand has been significantly influenced by price changes and stockouts, as well as slow-movers to be eliminated from stock.

EDIT REQUIREMENTS: May be any letter, or left blank. An "X" may be used to identify all such items, or a multi-code system may be developed locally to provide additional information. For example, an "M" for markdowns, and an "S" for stockouts.

### Stock Record Master - Storage Location

The location in which the largest quantity of the stock item is usually stored. This may be a bin number or row number in the bulk storeroom. Any system of storage location identification developed by the ship's personnel may be used, provided that storage locations can be uniquely identified in ten characters.

EDIT REQUIREMENTS: None

### Stock Record Master - Unit of Measure for Requisitions/Orders

A three-character abbreviation for the units in which the stock item is measured when the item is ordered from a vendor or requisitioned from NSC or CARGO. For example, EA, CN, CTN, PKG.

EDIT REQUIREMENTS: Any combination of one, two, or three letters is acceptable, but cannot be left blank.

### Stock Record Master - Quantity Per Case

The minimum order quantity or the number of units in the package size most often procured. This figure, in the requisition/order unit of measure, is most often the case count for low-cost items, and "1" for luxury items. When the requisition/order unit of measure is case, this value should be "1".

EDIT REQUIREMENTS: Must be a whole number between 1 and 9999. Decimal points and commas are not allowed. The default value is "1".

#### Stock Record Master - On Order Quantity

The total quantity of this item found on all outstanding requisitions or orders, in requisition/order units of measure. This field will normally be left at zero (0) when a new item is being added. Entry of a requisition or purchase order into the ROM System will automatically increase this field by the quantity ordered.

EDIT REQUIREMENTS: Must be a whole number between 0 and 99999. Decimal points and commas are not allowed.

#### Stock Record Master - Cost Price

The cost, per requisition/order unit of measure, of the stock item when the item was last acquired. This figure will be entered and updated automatically each time a receipt is entered into the ROM System.

EDIT REQUIREMENTS: Must be a non-zero numeric value between .0001 and 9999.9999. Commas and dollar signs are not allowed.

#### Stock Record Master - Cost Price Date

The date that the stock item was last received on board from any supply source. This date should only be entered during the original ROM System implementation aboard ship since it is automatically posted and updated each time a receipt is entered into the system.

EDIT REQUIREMENTS: Must be a valid date in DDMMYY format where DD is a two-digit day of the month, MMM is the first three letters of that month name (JAN, FEB, etc.), and YY is the last two digits of the year. May also be left unchanged, that is "DDMMYY."

#### Stock Record Master - Vendor Control Number

The unique six-character number that identifies the commercial vendor or Navy activity from which the stock item was last procured. Contract Bulletin vendors are identified by the last four digits of their annual contract. Vendors listed in the Ships Store Afloat Catalog are identified either by a Vendor Code Number printed in the SSAC, or, when that number is not printed, by a three-digit number assigned locally by ships store personnel. Navy ships and activities are identified by their one-letter Service Designator and five-digit Unit

Identification Codes. These numbers must be entered through the SSAC/Contract Vendor Maintenance function before a requisition or purchase order can be prepared. They should be entered on the Stock Record Masters only during the initial ROM System implementation aboard ship. After that, the number will be updated automatically every time a receipt is posted.

EDIT REQUIREMENTS: May be left blank, or contain any combination of letters and numbers up to six characters in length.

#### Stock Record Master - Unit of Measure for Sales and Inventory

A three-character abbreviation for the units in which the item is measured for purposes of sales, bulk sales, sales to the EDF, issues to ship's use, health and comfort issues, transfers to other supply officers, surveys, markdowns, inventories, spot inventories, high and low limits, and stock balances. All on-hand quantities displayed in the Retail Operations Management System are in this unit of measure.

EDIT REQUIREMENTS: Any combination of one, two, or three letters is acceptable, but the field may not be left blank.

NOTE: This unit of measure may be the same as the unit of measure for requisitions/orders if the item is ordered and sold in the same unit of measure.

#### Stock Record Master - Quantity On Hand - Bulkroom

The quantity of the stock item currently on hand in the bulk storeroom, in the Sales/Inventory Units of Measure. This quantity should only be entered for a new item when the Retail Operations Management System is first being implemented aboard ship. The quantity will automatically be increased by entry of receipts into the ROM System, and will be reduced by entry of bulk sales, intra-store transfers, spot inventories, closing inventories, sales to the EDF, issues to ship's use, health and comfort issues, transfers to other supply officers, surveys, and markdowns to zero for store 99 (the bulk storeroom).

EDIT REQUIREMENTS: Must be a whole number between 0 and 99999. Decimals and commas are not allowed. For example, 12.5 and 2,321 would both be invalid.

### Stock Record Master - Quantity On Hand - Total

The quantity of the stock item currently on hand in all locations, in Sales/Inventory Units of Measure. This quantity should only be entered for a new item when the Retail Operations Management System is first being implemented aboard ship. The quantity will automatically be increased by entry of receipts into the ROM System, and will be reduced by entry of expenditures, surveys, bulk sales, issues, transfers to other supply officers, markdowns to zero, and inventories. This field is unaffected by intra-store transfers.

EDIT REQUIREMENTS: Must be a whole number between 0 and 99999. Decimals and commas are not allowed. For example, 10.5 and 2,321 would be invalid.

### Stock Record Master - Low Limit

The stock level of this item in sales units of measure that signals the need to initiate replenishment action. It includes the sum of stocks represented by the safety level and the order and shipping time as described in Chapter One, Part Five of the *Ships Store Afloat Handbook*. This quantity should be entered on the Stock Record Master only for new stock items, and during the initial system implementation. The Low Limit will normally be posted and updated automatically by executing the Set High and Low Limits function.

EDIT REQUIREMENTS: Must be a whole number between 0 and 99999. Decimals and commas are not allowed. The default value is "0".

### Stock Record Master - High Limit

The maximum quantity of this item in sales units of measure to be maintained on hand and on order to sustain current operations. It includes the sum of stocks represented by the operating level, the safety level and the order and shipping time as described in Chapter One, Part Five of the *Ships Store Afloat Handbook*. This quantity should be entered on the Stock Record Master only for new stock items, and during the initial system implementation. The High Limit will normally be posted and updated automatically by executing the Set High and Low Limits function.

**EDIT REQUIREMENTS:** Must be a whole number between 0 and 99999. Decimals and commas are not allowed. The default value is "0".

#### **Stock Record Master - Retail Price**

The price for which each sales unit of this item is to be sold. This field should generally only be entered when a new item is added. The retail price will automatically be modified whenever a retail price change is entered into the ROM System. A new retail price may also be computed and modified by the user when a receipt for this item is entered.

**EDIT REQUIREMENTS:** Must be a number between .01 and 9999.99. Commas and dollar signs (\$) are not allowed.

#### **Stock Record Master - Retail Price Date**

The date that the current retail price was established. This date should normally be entered only during the initial system implementation since the date will be updated automatically every time that the system processes a retail price change or stock receipt.

**EDIT REQUIREMENTS:** Must be a valid date in DDMMYY format where DD is a two-digit day of the month, MMM is the first three letters of that month name (JAN, FEB, etc.), and YY is the last two digits of the year. May also be left unchanged, that is "DDMMYY."

#### **Stock Record Master - Cost Price in Sales Units of Measure**

The cost, per sales/inventory unit of measure, of the stock item when the item was last acquired. This value will normally be entered only during the initial system implementation since it is automatically computed and posted each time that a receipt is processed.

**EDIT REQUIREMENTS:** Must be a non-zero numeric value between .0001 and 9999.9999. Commas and dollar signs (\$) are not allowed.

R01000S04

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STOCK RECORD MASTER

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DELETE MODE

Stock Number      CARGO      Stock Nomenclature (Article)  
051110-0005      0957      Soda, 7UP  
Account      Dept Code      Reqn Type      Item Code      Inv Code      Storage Loc  
51000      K4      D      B

-----REQUISITION AND ORDER INFORMATION-----

Unit of Meas	Quantity	Quantity	Cost	Cost Price	Vendor
For Reqn/Ord	Per Case	On Order	Price	Date	Number
CS	1	69	4.3200	27MAY83	0223

-----ISSUE / SELLING AND ON-HAND INFORMATION-----

Unit of Meas	On-Hand	Quantity	Low	High	Retail	Ret Price	Cost
For Sales, O/H	Bulkroom	Total	Limit	Limit	Price	Date	Price
CN	2424	5784	2880	4320	.25	27MAY83	.1800

PF KEY      FUNCTION

PF 1      RESPECIFY Stock Number - DO NOT DELETE this Stock Record

PF 4      DELETE this Stock Record

PF 16      EXIT to ROM Master Menu - DO NOT DELETE this Stock Record

## GENERAL DESCRIPTIVE INFORMATION FOR SCREEN RD1000S04

### STOCK RECORD MASTER, GENERAL DATA

This function allows the user to view the contents of a Stock Record Master before deleting the item from the ROM database. All information is displayed in low intensity so that no entries or changes can be made to the Stock Record Master through this function. When the information is presented, it should be reviewed carefully to verify that the correct item is being deleted. If the wrong item is displayed, the user may press PF Key 1 to return to screen RD1000S01 in order to respecify the stock number or CARGO number of the correct item. Or, by pressing PF Key 16, the user will be returned to the ROM Master Menu. In either case, no Stock Record Master will be deleted.

When the stock item displayed has been confirmed as the item to be deleted, and both the on-order and bulkroom on-hand quantities are zero, the user should press PF Key 4. This action will erase all Stock Record Master data fields pertaining to the item from the ROM database, including all historical demand information. If at a later date the decision is made to restock the item, the Stock Record Master information will have to be entered into the ROM System just as for any new item.

This function will most often be performed for special order items after their receipt and sale.



RD1000S10

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STOCK RECORD MASTER LIST

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Select the category of items to be printed.  
To print all items, leave the category information blank.

- \* Basic Stock Items
- \* Deployed Load Items
- \* Foreign Merchandise
- \* Trial or New Items
- \* Special Order Items

List to be printed in sequence by:

Department (D), or Stock Number (S), or Alphabetically (A)

\*

Please supply the above information and press ENTER, or  
Press PF KEY 16 to return to the Stock Record Maintenance Menu.

## GENERAL DESCRIPTIVE INFORMATION FOR SCREEN R01000S10

### STOCK RECORD MASTER LIST

This function prints a list of all or selected Stock Record Masters in sequence by department, stock number, or alphabetically by item description.

The user is first given the choice of processing all stock items, or just those in a particular category. The possible categories include (1) Basic Stock Items, (2) Deployed Load Items, (3) Foreign Merchandise, (4) Trial or New Items, and (5) Special Order Items. The user may also specify a range of departments, stock numbers, or alphabetical item descriptions to be printed.

If a single category of stock items is to be processed, enter an "X" next to that category. Then enter the appropriate letter to select the order in which the Stock Record Masters are to be printed.

### FIELD DESCRIPTIVES FOR SCREEN R01000S10

#### Stock Record Master List - Category

Specify the category of items to be processed by entering an "X" next to the appropriate category. If no category is selected, all stock items will be processed.

EDIT REQUIREMENTS: Must be an "X". Select only one category, or leave blank.

#### Stock Record Master List - Sequence

Specify the sequence (order) in which the reported stock items are to be printed from the following choices:

- D - Print Listing in Department Code Sequence
- S - Print Listing in Stock Number Sequence
- A - Print Listing in Alphabetical Sequence

EDIT REQUIREMENTS: Must be "D", "S", or "A".

R01000914

=====

VIEW STOCK RECORDS BY VENDOR

=====

VENDOR NUMBER

\*\*\*\*\*

Key in the Vendor Number, and press ENTER

OR

Press PF Key 16 to exit this function

## GENERAL DESCRIPTIVE INFORMATION FOR SCREEN R01000S14

### VIEW STOCK RECORDS BY VENDOR

This function displays all the stock items procured from a specific vendor or Navy activity. The display includes the stock number, description, stock limits, and both the Bulkroom and Total Balances. It is intended to provide ready access to this essential inventory information during visits by salesmen. Certain vendors represent several different manufacturers, each with a different Vendor Code Number and listing in the Ships Store Afloat Catalog (SSAC). Because stock information can be displayed for only one Vendor Number at a time, all such numbers assigned to a particular vendor will have to be entered separately in order to view all the stock items he represents.

To view all the stock items last procured from a specific vendor, enter that vendor's Vendor Number as previously established through the SSAC/Contract Vendor Maintenance function, and press ENTER.

### FIELD DESCRIPTIVES FOR SCREEN R01000S14

#### View Stock Records By Vendor - Vendor Number

Enter the Vendor Number assigned to that vendor whose stock is to be displayed. This number is either the last four digits of the contract number listed in a Contract Bulletin, the six-digit Vendor Code Number or three-digit locally-assigned number for each SSAC vendor, or the one-letter and five-digit Unit Identification Code assigned to each Navy activity.

**EDIT REQUIREMENTS:** Must be an alphanumeric Vendor Number previously established through the SSAC/Contract Vendor Maintenance function.

RD1000515

VENDOR: C. LLOYD JOHNSON CO., INC.

Stock Number	Description	Stock Limits		On-Hand-Quantity	
		High	Low	Bulk	Total
051110-0066	CANDY, BUTTERFINGER	798	532	576	963
051110-0067	CANDY, BABY RUTH	576	384	480	774
051110-0073	CANDY, REESES CUP	1326	884	864	1431
051110-0074	CANDY, HERSHEY ALMONDS	1371	914	1124	1544
051110-0075	CANDY, HERSHEY MILK CHOCO	1488	992	1040	1816
051110-0156	CANDY, NESTLE CRUNCH	1272	848	720	1635
051110-0184	CANDY, M&M PLAIN	1023	682	848	1353
051110-0187	CANDY, MILKY WAY	1170	780	468	1532
051110-0283	CANDY, HERSHEY BIG BLOCK	708	472	372	796
053200-0003	NUTS, PLANTERS PEANUTS	123	82	96	167
053200-0006	NUTS, PLANTERS MIXED	102	68	96	149
053200-0011	NUTS, PLANTERS CASHEWS	66	44	60	76

ENTER	CONTINUE	- View next screen
PF 1	FIRST	- View first screen
PF 3	DETAIL	- Position cursor and display detail
PF 16	EXIT	- Exit this function

GENERAL DESCRIPTIVE INFORMATION FOR SCREEN R01000S15

VIEW STOCK RECORDS BY VENDOR

This screen displays a list of stock items previously procured from the specified vendor. The items are listed in stock number sequence, twelve items per screen.

The user may access the Stock Record Master - View Mode for any of the stock items listed by positioning the workstation cursor next to the item to be viewed, and pressing PF Key 3. The cursor may be in any column; it only needs to be on the same line as the stock item in order to call up the Stock Record Master for that item. To return to the View Stock Records By Vendor screen, press PF Key 1 (Respecify Stock Number) from the detail display.

By pressing the ENTER key, the next screen of stock items will be displayed. Pressing PF Key 1 will cause the first screen of stock items to be redisplayed. When PF Key 16 is pressed, the initial View Stock Records By Vendor screen will be displayed to permit entry of another Vendor Number.

# STOCK PRICE LIST

## RANGE

To print all items, leave the RANGE information below blank.  
To print all items in one department, specify FROM department only.

OR

From Stock Number	Thru Stock Number
*****	*****

**PF KEY FUNCTION**

```

ENTER
PRINT a Stock Price List
EXIT to Stock Record Master Maintenance Menu
PF 16

```

## GENERAL DESCRIPTIVE INFORMATION FOR SCREEN R01030S01

### STOCK PRICE LIST

This function prints a list of all or selected stock items in the Stock Price List format that includes the department code, stock number, description, retail unit of measure, and retail price of each item. The user may choose to print the list in sequence by either department or stock number, and may select a specific range of departments or stock numbers to include on the list. When department sequence is chosen, the items will be listed in stock number order within each department.

First select the list sequence by entering an "X" next to either "Department" or "Stock Number". If no selection is made, the list will be printed in department sequence. Then, if in department sequence, specify the department code or range of department codes to be listed. If in stock number sequence, specify the range of stock numbers to be listed. When no range is specified, all stock items will be listed.

## FIELD DESCRIPTIVES FOR SCREEN R01000S10

### Stock Price List - Sequence

Specify the sequence in which the stock items will be listed by entering an "X" next to either "Department" or "Stock Number". If no selection is made, the list will be printed in department sequence.

EDIT REQUIREMENTS: Must be a single "X", or left blank.

### Stock Price List - From Department

Enter the first department to be included in the printing of the Stock Price List.

EDIT REQUIREMENTS: Must be a valid department code established through the Update Retail Operations Constants Function, PF Key 12 on the ROM Master Menu, or left blank.

### Stock Price List - Thru Department

Enter the last department to be included in the printing of the Stock Price List. If all departments are to be printed, leave this field blank. If only one department is to be printed, enter that department code in the FROM department field and leave this field blank.



EDIT REQUIREMENTS: Must be a valid department code established through the Update Retail Operations Constants Function, PF Key 12 on the ROM Master Menu, or left blank.

#### Stock Price List - From Stock Number

Enter the first stock number to be included in the printing of the Stock Price List.

EDIT REQUIREMENTS: Must be a valid stock number established in a Stock Record Master, or left blank.

#### Stock Price List - Thru Stock Number

Enter the last stock number to be included in the printing of the Stock Price List. If a list of all stock items is to be printed, enter the stock number in the FROM stock number only.

EDIT REQUIREMENTS: Must be a valid stock number established in a Stock Record Master, or left blank.

RD7000S02

=====

STOCK RECORD MASTER

=====

VIEW MODE

Stock Number      CARGO      Stock Nomenclature (Article)  
051110-0005      0957      Soda, 7UP  
Account      Dept Code      Reqn Type      Item Code      Inv Code      Storage Loc  
51000      K4      D      B

-----REQUISITION AND ORDER INFORMATION-----

Unit of Meas	Quantity	Quantity	Cost	Cost Price	Vendor
For Reqn/Ord	Per Case	On Order	Price	Date	Number
CS	1	69	4.3200	27MAY83	0223

-----ISSUE / SELLING AND ON-HAND INFORMATION-----

Unit of Meas	On-Hand	Quantity	Low	High	Retail	Ret Price	Cost
For Sales, O/H	Bulkroom	Total	Limit	Limit	Price	Date	Price
CN	2424	5784	2880	4320	.25	27MAY83	.1800

PF KEY      FUNCTION

ENTER      RESPECIFY Stock Number

PF 3      Display Detail Ledger

PF 5      Display Outstanding Orders and Requisitions

PF 16      EXIT to ROM Master Menu

GENERAL DESCRIPTIVE INFORMATION FOR SCREEN R07000S02

STOCK RECORD MASTER, GENERAL DATA

This screen allows the user to view all current information on an existing Stock Record Master, and also to display the associated Detail Ledger and Outstanding Orders and Requisitions listing. However, all information displayed on this screen is in low intensity, thus allowing no entries or changes to be made to the ROM database through this function.

This function is provided for users who require access to detailed information about stock items, but who have no legitimate need to make changes to that information in the ROM database. Such individuals can be granted access to this function, but denied access to the Stock Record Master Maintenance function (PF 1 on the ROM Master Menu).

By pressing the ENTER key, the user will be returned to screen R07000S01 to specify the stock number or CARGO number of the next item to be viewed. The Detail Ledger can be displayed by pressing PF Key 3, and the listing of Outstanding Orders and Requisitions can be viewed by selecting PF Key 5. When the user presses PF Key 16, the system will exit to the ROM Master Menu.

R07000S10

=====

STOCK RECORD MASTER LIST

=====

Select the category of items to be printed.  
To print all items, leave the category information blank.

- \* Basic Stock Items
- \* Deployed Load Items
- \* Foreign Merchandise
- \* Trial or New Items
- \* Special Order Items

List to be printed in sequence by:  
Department (D), or Stock Number (S), or Alphabetically (A)

\*

Please supply the above information and press ENTER, or  
Press PF KEY 16 to return to the Stock Record Maintenance Menu.

## GENERAL DESCRIPTIVE INFORMATION FOR SCREEN R07000S10

### STOCK RECORD MASTER LIST

This function prints a list of all or selected Stock Record Masters in sequence by department, stock number, or alphabetically by item description.

The user is first given the choice of processing all stock items, or just those in a particular category. The possible categories include (1) Basic Stock Items, (2) Deployed Load Items, (3) Foreign Merchandise, (4) Trial or New Items, and (5) Special Order Items. The user may also specify a range of departments, stock numbers, or alphabetical item descriptions to be printed.

If a single category of stock items is to be processed, enter an "X" next to that category. Then enter the appropriate letter to select the order in which the Stock Record Masters are to be printed.

### FIELD DESCRIPTIVES FOR SCREEN R07000S10

#### Stock Record Master List - Category

Specify the category of items to be processed by entering an "X" next to the appropriate category. If no category is selected, all stock items will be processed.

EDIT REQUIREMENTS: Must be an "X". Select only one category, or leave blank.

#### Stock Record Master List - Sequence

Specify the sequence (order) in which the reported stock items are to be printed from the following choices:

- D - Print Listing in Department Code Sequence
- S - Print Listing in Stock Number Sequence
- A - Print Listing in Alphabetical Sequence

EDIT REQUIREMENTS: Must be "D", "S", or "A".

RD00002501

27 JUL 84  
11:15

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REQUISITIONS / PURCHASE ORDERS

=====

PF KEY	FUNCTION
PF 1	Requisitions
PF 5	Purchase Orders
PF 7	Compute Order Quantities
PF 16	Exit to ROM Master Menu

GENERAL DESCRIPTIVE INFORMATION FOR SCREEN R00002S01

REQUISITIONS / PURCHASE ORDERS MENU

Press PF Key 1 to requisition CARGO items, Navy Standard Clothing and other Navy standard stock items, or to requisition items from another Supply Officer.

Press PF Key 5 to order Purchase Order items such as stock listed in the Contract Bulletin and Ships Store Afloat Catalog, or Foreign Merchandise.

Press PF Key 7 to automatically compute reorder quantities for all or selected stock items, and to prepare requisitions and/or purchase orders for those items.

Press PF Key 16 to exit this function and return to the Retail Operations Management Master Menu.

RD2000S02D

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PURCHASE ORDERS

=====

Purchase Order Number: V20613-3274-9833

Navy Exchange Unit Identification Code (UIC)

\*\*\*\*\*

Key in the Navy Exchange UIC and press ENTER to post items to Purchase Order

OR

Press PF KEY 16 to return to Purchase Order Menu



AD-A147 542

DECISION SUPPORT FUNCTIONS FOR THE RETAIL OPERATIONS  
MANAGEMENT SYSTEM(U) AIR FORCE INST OF TECH  
WRIGHT-PATTERSON AFB OH SCHOOL OF SYST... J L MITCHELL

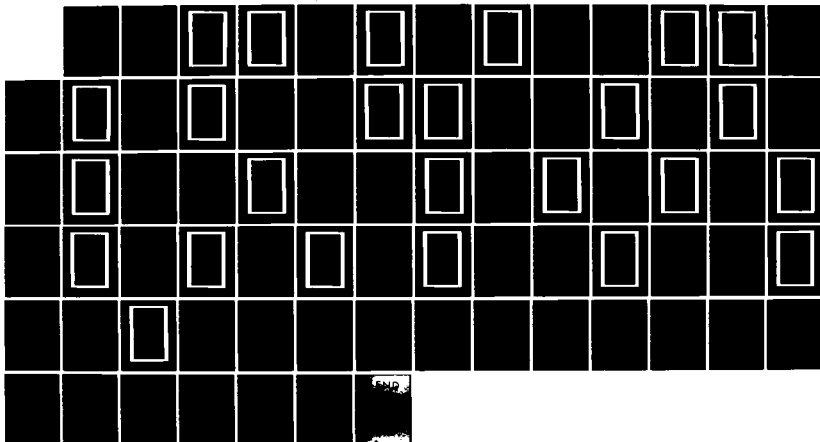
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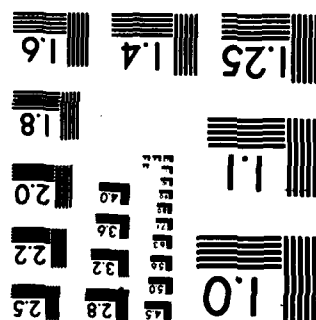
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SEP 84 AFIT/GLM/LSM/845-47

F/G 5/1

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GENERAL DESCRIPTIVE INFORMATION FOR SCREEN R02000S02D  
PURCHASE ORDERS

An intermediate Purchase Order Screen requiring entry of the Unit Identification Code (UIC) of the overseas Navy Exchange from which foreign merchandise is to be procured.

FIELD DESCRIPTIVES FOR SCREEN R02000S02D

Purchase Order - Navy Exchange Unit Identification Code

Enter the Unit Identification Code (UIC) of the overseas Navy Exchange from which the items are to be ordered.

EDIT REQUIREMENTS: Must be a valid Unit Identification Code previously established through the SSAC/Contract Vendor Maintenance function.

## Foreign Merchandise

# =====

# PURCHASE ORDERS

# =====

**Purchase Order Date: 01 OCT 83**      **Purchase Order No: V20613-3274-9833**

Quantity

**Stock Number**

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**PF KEY FUNCTION**

**PF KEY**

## FUNCTION

ENTER	POST	- Post items to Purchase Order
PF 1	FIRST	- Display first screen of items
PF 5	NEXT	- Display next screen of items
PF 16	EXIT	- Exit to Purchase Order Menu

RD2020S01

=====

COMPUTE ORDER QUANTITIES

=====

Place an "X" next to the category of items to be processed.

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- \* Contract Bulletin
  - \* CARGO
  - \* Foreign Merchandise
  - \* Ships Store Afloat Catalog (SSAC)
  - \* Navy Standard Stock Items
- 

PF KEY	FUNCTION
-----	-----
ENTER	CONTINUE
PF 16	EXIT to Requisition/Purchase Order Menu

GENERAL DESCRIPTIVE INFORMATION FOR SCREEN R02020S01

COMPUTE ORDER QUANTITIES

An intermediate Compute Order Quantities screen requiring the selection of one category of stock items to be processed. The five categories, corresponding to the Requisition Type Codes included on the Stock Record Masters, are:

- Contract Bulletin Items
- CARGO Items
- Foreign Merchandise
- Ships Store Afloat Catalog (SSAC) Items
- Navy Standard Stock-numbered Items

Those stock items available from both the CARGO and Contract Bulletin vendors (Requisition Type Code "D") will automatically be processed with the Contract Bulletin or CARGO items, whichever is selected first. Normally, stock will be ordered from Contract Bulletin vendors while the ship is in CONUS, and through the CARGO while deployed.

FIELD DESCRIPTIVES FOR SCREEN R02020S01

Compute Order Quantities - Requisition Type Category

Enter an "X" next to the category of items for which order quantities are to be computed. Select only one.

EDIT REQUIREMENTS: Must be an "X". May not be left blank.

=====

To process all items, leave the range information below blank.  
To process all items in one department, specify FROM department only.

From Department	Thru Department

\*\*\*

\*\*\*

### SEQUENCE WITHIN DEPARTMENTS

Select the order in which the items are to appear WITHIN the departments.

**\* Stock Number Order**  
**\* Alphabetical Order**

PF KEY	FUNCTION
-----	-----
ENTER	CONTINUE
PF 16	EXIT to Requisition/Purchase Order Menu

## GENERAL DESCRIPTIVE INFORMATION FOR SCREEN R02020S02

### COMPUTE ORDER QUANTITIES

An intermediate Compute Order Quantities screen that permits selection of a particular range of departments to be processed. The user may also specify whether individual stock items will be displayed alphabetically by item description, or in stock number sequence within each department.

First enter the department code or range of department codes to be processed. When no range is specified, the stock items from all departments will be included. Then place an "X" next to either "Stock Number Order" or "Alphabetical Order" to select the sequence within each department that the stock items will be listed. If no selection is made, the items will be displayed in stock number order.

### FIELD DESCRIPTIVES FOR SCREEN R02020S02

#### Compute Order Quantities - From Department

Enter the first department to be included in the computation of order quantities.

EDIT REQUIREMENTS: Must be a valid department code established through the Update Retail Operations Constants Function, PF Key 12 on the RQM Master Menu, or left blank.

#### Compute Order Quantities - Thru Department

Enter the last department to be included in the computation of order quantities. If all departments are to be processed, leave this field blank. If only one department is to be processed, enter that department code in the FROM department field and leave this field blank.

EDIT REQUIREMENTS: Must be a valid department code established through the Update Retail Operations Constants Function, PF Key 12 on the RQM Master Menu, or left blank.

#### Compute Order Quantities - Sequence Within Departments

Enter an "X" next to either "Stock Number Order" or "Alphabetical Order" to specify sequence.

EDIT REQUIREMENTS: Must be a single "X", or left blank.



R02020S03

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COMPUTE ORDER QUANTITIES

=====

ON-HAND QUANTITIES

Select the balance to be used in computing the order quantities.

- \* Bulkroom Balance
- \* Total Balance

ORDER CRITERIA

Select the rule to be used in computing the order quantities.

- \* Order if on-hand quantity is less than or equal to the low limit.
- \* Order all items up to their high limits.

PF KEY	FUNCTION
ENTER	CONTINUE - View / Modify order quantities
PF 16	EXIT to Requisition/Purchase Order Menu

## GENERAL DESCRIPTIVE INFORMATION FOR SCREEN R02020S03

### COMPUTE ORDER QUANTITIES

An intermediate Compute Order Quantities screen that requires the selection of the proper on-hand balance quantity, and the order criteria to be applied in the computation of order quantities.

When "Bulkroom Balance" is specified, that figure from the Stock Record Master will be used as the on-hand figure in the calculation of order quantities. For a store operated under combined responsibility without the use of Intra-store Transfer Data forms (NAVSUP Form 973), the Bulkroom Balance is not maintained, and so cannot be used. The "Total Balance" figure must be used in this case, and should always be used when computing order quantities immediately after the posting of the end-of-period physical inventory since it then reflects the actual on-hand quantity.

The user is given the choice of two order criteria. The first will compute order quantities for any item for which the on-hand plus on-order total is less than or equal to the Low Limit. This is the normal method used when the ship is in CONUS where order and shipping time is short and resupply opportunities are frequent. The second criteria will compute order quantities for any item for which the on-hand plus on-order total is less than the High Limit. This method will produce high inventory levels, and should be used only in preparation for, and during deployments when resupply opportunities are infrequent and uncertain, and order and shipping time is long.

First place an "X" next to either "Bulkroom Balance" or "Total Balance" to specify which figure will be used as the on-hand figure in the order quantity computations. Then place an "X" next to the order criteria to be used in computing the order quantities. Neither selection can be left blank.

### FIELD DESCRIPTIVES FOR SCREEN R02020S03

#### Compute Order Quantities - On-hand Balance

Enter an "X" next to either "Bulkroom Balance" or "Total Balance" to select which value will be used as the on-hand figure in the order quantity calculations.

EDIT REQUIREMENTS: Must be a single "X". Cannot be left blank.

### Compute Order Quantities - Order Criteria

Enter an "X" next to one of the two order criteria to specify which will be used to compute the order quantities.

EDIT REQUIREMENTS: Must be a single "X". Cannot be left blank.

RD2020S04

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COMPUTE ORDER QUANTITIES

=====

ITEM DESCRIPTION	CODES R I S U/M	PURCHASE		ON-HAND-QTY		PURCHASE U/M		STOCK-LIMIT		ORDER QTY
		COST	CASE	BULK	TOTAL	ORDER	HIGH	LOW		
CANDY,BUTTERFINGE	D B EA	.1500	288	576	963	0	798	532	**288	
CANDY,BABY RUTH	D B EA	.1500	288	480	774	0	576	384	***0	
CANDY,REESES CUP	D B EA	.1570	432	864	1431	0	1326	884	**432	
CANDY,HERSHEY ALM	D B EA	.1680	432	1124	1544	0	1371	914	***0	
CANDY,HERSHEY MIL	D B EA	.1680	432	1040	1816	0	1488	992	**432	
CANDY,NESTLE CRUN	D B EA	.1609	360	720	1635	0	1272	848	**720	
CANDY,M&M PLAIN	D B EA	.1609	360	848	1353	0	1023	682	***0	
CANDY,MILKY WAY	D B EA	.1609	360	468	1532	0	1170	780	**720	
CANDY,HERSHEY BIG	D B EA	.2890	288	372	796	0	708	472	**288	
NUTS,PLANTERS PEA	D B CN	.9030	12	96	167	0	123	82	**24	

ENTER	CONTINUE	- Display next screen
PF 1	FIRST	- Display first screen
PF 2	BACK	- Display previous screen
PF 14	PRINT	- Print Order Quantities Listing
PF 15	ORDER	- Prepare Requisitions/Purchase Orders
PF 16	EXIT	- Exit to Requisition/Purchase Order Menu

RD2020S04

=====

COMPUTE ORDER QUANTITIES

=====

ITEM DESCRIPTION	CODES R I S U/M	PURCHASE			ON-HAND-QTY			PURCHASE U/M			ORDER QTY
		COST	CASE	BULK	TOTAL	ORDER	HIGH	LOW			
NUTS, PLANTERS MIX	D B CN	1.0910	12	96	149	0	102	68	****0		
NUTS, PLANTERS CAS	D B CN	2.2448	12	60	76	0	66	44	****0		
NUTS, PLANTERS SPA	D B CN	.9030	12	84	123	0	93	62	***12		

SPECIAL INVENTORY ITEMS . . . REVIEW ORDER QUANTITIES CAREFULLY!

CANDY, 3MUSKETEERS	D B S EA	.1609	360	324	794	0	285	187					****0
CANDY, LICORICE SW	D X EA	.1035	144	0	167	0	183	61					**144
CANDY, LIFESAVERS	D M EA	.1564	500	0	366	0	224	72					**500

LAST ITEM IS CURRENTLY BEING DISPLAYED.

- |       |          |   |
|-------|----------|---|
| ENTER | CONTINUE | - Display next screen                     |
| PF 1  | FIRST    | - Display first screen                    |
| PF 2  | BACK     | - Display previous screen                 |
| PF 14 | PRINT    | - Print Order Quantities Listing          |
| PF 15 | ORDER    | - Prepare Requisitions/Purchase Orders    |
| PF 16 | EXIT     | - Exit to Requisition/Purchase Order Menu |

## GENERAL DESCRIPTIVE INFORMATION FOR SCREEN R02020S04

### COMPUTE ORDER QUANTITIES

This screen displays the order quantities computed by the ROM System in high intensity for review and modification by the user. Also displayed for each item in the specified category and range are its description, Requisition Type, Item, and Special Inventory Codes, purchase unit of measure and cost, case lot quantity, Bulkroom, Total, and On-order Balances, and high and low limits. All the quantities shown have been converted into purchase units of measure to facilitate their review. This information is all displayed in low intensity, and cannot be changed through this function. Those items with a Special Inventory Code are listed separately after the other stock, and are clearly identified as requiring special attention. All Special Order merchandise identified by Item Code is automatically excluded from processing under this function.

Ten stock items are displayed on each screen. Pressing the ENTER key advances to the next screen, pressing PF Key 1 redisplay the first screen, and pressing PF Key 2 redisplay the previous screen. Thus the entire list can be reviewed, and any order quantity changed.

A complete Order Quantities listing, including all the information on the screen display as well as the department code, stock number, and extended cost value of each item to be ordered, may be printed by pressing PF Key 14. This printout will include any changes made to the computed order quantities. Printing this list will not post the order quantities, and the user may exit the function and return to the Requisition / Purchase Order Menu at any time by pressing PF Key 16.

When the computed order quantities have been reviewed and modified as necessary, the user may press PF Key 15 to prepare the requisitions or purchase orders required to order those stock items. The ROM System will automatically transfer to either the Requisition or Purchase Order Function, as appropriate, and display the normal sequence of information screens. However, the stock numbers and quantities of each item will be automatically posted to those screens, and need only be reviewed, not entered, by the user. Similarly, the items to be ordered will have been sorted by Vendor Number, so all the document header information, such as the vendor address and discount terms, will also have been automatically inserted for review. Finally, the system will continue to prepare order documents until all items on the Order Quantity list have been ordered.

## FIELD DESCRIPTIVES FOR SCREEN R02020S04

### Compute Order Quantities - Order Quantity

The quantity displayed was computed using the on-hand and on-order quantities, and the stock limits displayed. It has also been rounded to the nearest full case lot quantity. By changing the quantity to "0" or to blanks, the item will not be ordered. The figure may also be changed to any other value, but the user should ensure that the new figure is a full case lot multiple.

EDIT REQUIREMENTS: Must be a whole number between 0 and 99999, or may be left blank. Decimals and commas are not allowed.

RD4050S01

=====

INVENTORY PRELISTING

=====

Store Number \*\*      Serial Number \*\*\*\*\*

Place an "X" next to the desired prelisting method.

- \* Manual
- \* Automatic
- \* Special Inventory Code Items

PF KEY	FUNCTION
-----	-----
ENTER	CONTINUE
PF 16	EXIT to Inventory Functions Menu



## GENERAL DESCRIPTIVE INFORMATION FOR SCREEN R04050S01

### INVENTORY PRELISTING

This function allows the user to produce Inventory Count Sheets for each store, and to specify the serial number for each sheet. One of three prelisting methods must be selected. The first is a manual technique that requires the user to enter the stock number of each item in the particular store in a sequence that will facilitate the actual physical inventory process. The second is an automatic method that lists all the stock items in a specified range of departments or stock numbers, in sequence either by department or stock number. The third process automatically lists just those items with a Special Inventory Code within a specific range of departments or stock numbers. Both automatic methods exclude all Special Order merchandise from the list, and consecutively number each count sheet starting with the serial number initially entered.

First enter the two-digit store number of the retail outlet or storeroom to be inventoried. Next enter the four digit serial number to be assigned to the first count sheet. Then place an "X" next to the prelisting method to be used.

### FIELD DESCRIPTIVES FOR SCREEN R04050S01

#### Inventory Prelisting - Store Number

Enter the store number that identifies the store or bulk storeroom to be inventoried.

EDIT REQUIREMENTS: Store Number must be the two-digit numeric code that identifies the store name existing in the Ships Store Constants File. Cannot be left blank.

#### Inventory Prelisting - Serial Number

Enter a four-digit number to be assigned to the first or current page of the inventory count sheets.

EDIT REQUIREMENTS: Must be numeric. Cannot be left blank.

#### Inventory Prelisting - Prelisting Method

Enter a single "X" next to the prelisting method to be used in preparing the Inventory Count Sheets.

EDIT REQUIREMENTS: Must be an "X". Cannot be left blank.

R04050802A

=====

INVENTORY PRELISTING

=====

-----

Automatic Inventory Prelisting for Accountable Store Number 01

-----

List to be printed in sequence by:   \* Department  
  \* Stock Number

RANGE

To print all items, leave the RANGE information below blank.  
To print all items in one department, specify FROM department only.

From Department	Thru Department
**	**
OR	
From Stock Number	Thru Stock Number
*****	*****

-----

ENTER	PRINT Inventory Count Sheets
PF 16	EXIT to Inventory Functions Screen

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## GENERAL DESCRIPTIVE INFORMATION FOR SCREEN R04050S02A

### INVENTORY PRELISTING

This intermediate Inventory Prelisting screen will appear after selection of either the "Automatic" or the "Special Inventory Code Items" prelisting method. It permits the user to choose whether the Inventory Count Sheets will be printed in sequence by department or stock number, and to select a specific range of departments or stock numbers to be included on those sheets. When department sequence is chosen, the items will be listed in stock number order within each department.

First select the list sequence by entering an "X" next to either "Department" or "Stock Number." If no selection is made, the list will be printed in department sequence. Then, if in department sequence, specify the department code or range of department codes to be included. If in stock number sequence, specify the range of stock numbers to be listed. When no range is specified, all stock items will be listed.

### FIELD DESCRIPTIVES FOR SCREEN R04050S02A

#### Inventory Prelisting - Sequence

Specify the sequence in which the stock items will be listed by entering an "X" next to either "Department" or "Stock Number". If no selection is made, the list will be printed in department sequence.

EDIT REQUIREMENTS: Must be a single "X", or left blank.

#### Inventory Prelisting - From Department

Enter the first department to be included in the printing of the Inventory Count Sheets.

EDIT REQUIREMENTS: Must be a valid department code established through the Update Retail Operations Constants Function, PF Key 12 on the ROM Master Menu, or left blank.

#### Inventory Prelisting - Thru Department

Enter the last department to be included in the printing of the Inventory Count Sheets. If all departments are to be printed, leave this field blank. If only one department is to be printed, enter that department code in the FROM department field and leave this field blank.

EDIT REQUIREMENTS: Must be a valid department code established through the Update Retail Operations Constants Function, PF Key 12 on the ROM Master Menu, or left blank.

#### Inventory Prelisting - From Stock Number

Enter the first stock number to be included in the printing of the Inventory Count Sheets.

EDIT REQUIREMENTS: Must be a valid stock number established in a Stock Record Master, or left blank.

#### Inventory Prelisting - Thru Stock Number

Enter the last stock number to be included in the printing of the Inventory Count Sheets. If a list of all stock items is to be printed, leave both stock number fields blank.

EDIT REQUIREMENTS: Must be a valid stock number established in a Stock Record Master, or left blank.

RD0004S01

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RETAIL OPERATIONS REPORTS

=====

PF 1	Monthly Transmittal of Receipt Documents
PF 2	Number Control (NAVSUP Form 980)
PF 3	Expenditure Invoice Log
PF 4	Financial Control Record (NAVSUP Form 235)
PF 5	Journal of Expenditures (NAVSUP Form 978)
	Journal of Receipts (NAVSUP Form 977)
PF 6	Ships Store Balance Sheet and
	Profit and Loss Statement (NAVCOMPT Form 153)
PF 7	Inventory Control Record
PF 8	Inventory Management Report
PF 9	View Transaction Activity
PF 10	Excess Stock Lists
PF 11	Foreign Merchandise Report
PF 16	Exit to ROM Menu

R05100501

=====

INVENTORY CONTROL

=====

MONTH END DATE: dd mmm yy

SHIP'S STATUS: \* CONUS  
\* Deployed

NUMBER OF MEN ABOARD FOR THE MONTH: \*\*400

NUMBER OF DAYS UNDER WAY FOR THE MONTH: \*\*

PF KEY ----- FUNCTION

ENTER ----- CONTINUE

PF 16 ----- EXIT to Retail Operations Reports Menu

## GENERAL DESCRIPTIVE INFORMATION FOR SCREEN R05100S01

### INVENTORY CONTROL

This function, which may be performed at any time, will print the Inventory Control Record based on the most recent data entered into the ROM System. First enter the last day of the month for which the report is to be computed. All months in the accounting period prior to the month requested will also be printed. Next specify either "CONUS" or "Deployed" as the ship's status for the month of the report. Then review and update as necessary the number of men shown as being aboard the ship during the month. Finally, enter the actual number of days that the ship was under way during the month. This figure should be left blank until the end of the month when the actual number is known.

### FIELD DESCRIPTIVES FOR SCREEN R05100S01

#### Inventory Control - Month End Date

Enter the day, month, and year of the last day of the month for which the Inventory Control Record is to be printed.

EDIT REQUIREMENTS: The Month End Date must be a calendar date in DDMMYY format where the DD is the two-digit last day of the month, MMM is the first three letters of the month's name (JAN, FEB, etc.), and YY is the last two digits of the year.

#### Inventory Control - Status

Place an "X" next to either "CONUS" or "Deployed" to indicate the ship's status during the month.

EDIT REQUIREMENTS: Must be a single "X" or a blank.

#### Inventory Control - Number of Men

The initial value of this field is assigned from the Retail Operations File. It may be changed when required.

EDIT REQUIREMENTS: Must be a value between 1 and 99999. Decimals and commas are not allowed.

#### Inventory Control - Days Under Way

Enter the actual number of days that the ship was under way during the month of the report. Any part of a day spent at sea should be considered a day under way.

EDIT REQUIREMENTS: Must be a whole number between 0 and 31, or left blank. Decimals and commas are not allowed.



RD5140S01

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EXCESS STOCK LISTS

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- |       |  |
|-------|--|
| PF 1  | Excess Stock Management Report         |
| PF 2  | Fleet Excess Stock List                |
| PF 3  | Excess Stock List By Vendor            |
| PF 16 | Exit to Retail Operations Reports Menu |

## GENERAL DESCRIPTIVE INFORMATION FOR SCREEN R05140S01

### EXCESS STOCK LISTS

This Excess Stock Lists Menu allows the user to select one of three different report formats in which to list the stock items currently in excess supply. The formulas used to compute the excess quantities in these three reports are different than those used in the Inventory Management Report in three respects. First, the user specifies which of the previous three historical demand periods will be used in the calculations rather than using the most recent period and the previous annual average. Second, these computations forecast future demand by adjusting the specified historical demand period for anticipated crew size and operational tempo. And third, these reports can be prepared at any time because the user can specify either the Bulkroom or Total Balance figure to be used as the on-hand figure. The Excess Stock Lists also differ from the Inventory Management Report in that they list only those items actually in excess instead of all the items in the Stock Record Master File.

Pressing PF Key 1 selects the Excess Stock Management Report for preparation. This report lists each item that is currently over-stocked, and includes the following information: description, Requisition Type, Item, and Special Inventory Codes, purchase unit of measure, on-hand and on-order quantities, the number of months' supply available, excess quantity, and the extended value of the excess stock. When printed, the department code and stock number are also included for each item.

The Fleet Excess Stock List produced by selecting PF Key 2 is intended to be distributed to the type commander, NAVRESSO Fleet Assistance Team, and other Ships Store Officers to encourage stock transfers. This list includes the stock number, description, purchase unit of measure and cost, and the excess quantity of each item.

When the user presses PF Key 3, an Excess Stock List By Vendor will be prepared. This list is similar in format to the Fleet Excess Stock List, but the stock items listed are sorted by vendor. The company name of the vendor, and the applicable SSAC or contract number, are displayed at the top of each page. This list can be used in arranging returns and exchanges of excess stock items with the vendors who supplied them.

RD5140S02

=====

EXCESS STOCK LISTS

=====

Select sales period on which to base demand:

\* JUN 84 - SEP 84  
\* FEB 84 - MAY 84  
\* OCT 83 - JAN 84

Number of months supply above which stock is considered in excess: \*

Select On-Hand Quantity for computations: \* Bulkroom Balance  
\* Total Balance (Note: Use after  
posting the period inventory.)

PF KEY FUNCTION

ENTER CONTINUE

PF 16 EXIT to Excess Stock Lists Menu

## GENERAL DESCRIPTIVE INFORMATION FOR SCREEN R05140S02

### EXCESS STOCK LISTS

This Excess Stock Lists intermediate screen permits the user to specify the previous accounting period on which to base forecasts of future demand, to set the number of months' supply above which stock will be considered "excess," and to select either the Bulkroom or Total Balance figure to be used as the on-hand quantity in the computations.

First enter an "X" next to the inclusive dates of that accounting period whose historical demand data will be used to forecast the demand for the remainder of the current period. If no selection is made, the most recent period's data will be used. Generally, the same period should be selected as was used in the Set High and Low Limits function.

Next, the user must enter the number of months' supply of each stock item he considers allowable. Only those items whose supply exceeds that number of months' forecasted demand will be included on the Excess Stock List. This computation totals the on-hand and on-order quantities as the available supply, a figure that will often exceed the prescribed 90-day stockage objective. For that reason, and to condense the list to include only those stock items most seriously in excess, this figure should normally be set no lower than four.

Finally, the user must specify whether the Bulkroom Balance or the Total Balance from each Stock Record Master will be used as the on-hand figure. The Total Balance should be used only during the period immediately following the posting of a complete physical inventory when it constitutes the actual on-hand quantity. This procedure will produce the most accurate Excess Stock Lists. Throughout the remainder of each accounting period, the Bulkroom Balance should be used since it approximates the effects of stock usage. For a retail outlet operating under combined responsibility without the use of Intra-store Transfer Data forms (NAVSUP Form 973), the Bulkroom Balance is not maintained. In this case, Excess Stock Lists should only be prepared at the beginning of each period.

## FIELD DESCRIPTIVES FOR SCREEN R05140S02

### Excess Stock Lists - Historical Demand Period

Enter a single "X" next to the inclusive dates of that accounting period whose demand data is to be used in forecasting future demand in the excess stock computations. When the Set High and Low Limits Function is used to set stock limits, the same historical demand period should be used for both functions. When left blank, the most recent period is automatically selected.

EDIT REQUIREMENTS: Must be a single "X" or left blank.

### Excess Stock Lists - Months' Supply Allowed

Enter the number of months' supply of each item allowed to be stocked on board. Only those items whose stock balance exceeds that supply will be included on the Excess Stock List.

EDIT REQUIREMENTS: Must be a one-digit whole number between 1 and 9. This field cannot be left blank. Normally a value greater than three will be used.

### Excess Stock Lists - Balance

Enter a single "X" next to either "Bulkroom Balance" or "Total Balance" to select which figure will be used to compute the current on-hand quantity. The Total Balance should be used only after a period inventory has been posted.

EDIT REQUIREMENTS: Must be a single "X". One of the two options must be selected.

R05140S03

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EXCESS STOCK LISTS

=====

CURRENT SHIP'S INFORMATION

Ship's Status:   \* CONUS  
                  \* Deployed

Number of months deployment remaining:   \*\*

Estimated average number of men aboard  
through the end of the current period:   \*\*\*\*\*

Estimated average number of under way days  
per month through the end of the period:   \*\*

PF KEY	FUNCTION
-----	-----
ENTER	CONTINUE
PF 16	EXIT to Excess Stock Lists Menu

## GENERAL DESCRIPTIVE INFORMATION FOR SCREEN R05140S03

### EXCESS STOCK LISTS

This intermediate screen requires the user to enter the current status of the ship (CONUS or Deployed), and the number of months deployment remaining. He must also estimate the average number of personnel that will be aboard the ship through the end of the current accounting period, and the average number of under way days per month during the same period. These figures are used to forecast demand for the remainder of the current period.

First enter an "X" next to either "CONUS" or "Deployed" to indicate the ship's current status. Next enter the nearest whole number of months deployment remaining; if in CONUS, leave this field blank.

Then enter the estimated average number of personnel that will be aboard the ship through the end of the current accounting period. When a large number of personnel will either embark or debark during the period, a weighted average should be calculated. For example, if an amphibious ship with a crew of 200 is expected to embark 400 Marines for three of the next four months, the weighted average number of personnel would be computed as follows:

$$\frac{[ 1 \text{ month} \times 200 \text{ men} ] + [ 3 \text{ months} \times 600 \text{ men} ]}{4.0 \text{ months}} = 500 \text{ men}$$

Finally, enter the estimated number of under way days per month through the end of the current period. This figure is the simple arithmetic mean of the scheduled under way days for each of the remaining months in the accounting period. The required schedule information should be obtained from the ship's Operations Officer.

### FIELD DESCRIPTIVES FOR SCREEN R05140S03

#### Excess Stock Lists - Ship's Status

Enter a single "X" next to either "CONUS" or "Deployed" to indicate the ship's current status.

EDIT REQUIREMENTS: Must be a single "X", and cannot be left blank.

#### Excess Stock Lists - Months Deployment Remaining

Enter the whole number of months deployment remaining, rounding any period greater than fourteen days up to a whole month. When the ship is in CONUS, leave this field blank.

EDIT REQUIREMENTS: Must be a whole number between 0 and 99, or may be left blank.

#### Excess Stock Lists - Estimated Number of Men

Enter the estimated average number of personnel expected to be aboard the ship through the remainder of the current accounting period. Include embarked Marines, air wing, and staff personnel, and use a weighted average if necessary.

EDIT REQUIREMENTS: Must be a whole number between 1 and 99999. This field cannot be left blank.

#### Excess Stock Lists - Estimated Under Way Days

Enter the estimated number of under way days per month through the end of the current accounting period based on the most current ship's schedule information.

EDIT REQUIREMENTS: Must be a whole number between 0 and 31. This field cannot be left blank.



**EXCESS STOCK LISTS**

Report to be printed in sequence by:

## RANGE

To print all items, leave the RANGE information below blank.  
To print all items in one department, specify FROM department only.

From Department                      Thru Department

**OR**

From Stock Number	Thru Stock Number
*****	*****

PF KEY	FUNCTION
ENTER	VIEW Excess Stock List
PF 16	EXIT to Excess Stock Lists Menu

## GENERAL DESCRIPTIVE INFORMATION FOR SCREEN R05140S04

### EXCESS STOCK LISTS

This intermediate screen allows the user to determine whether the Excess Stock List will be printed in sequence by department or by stock number, and to select a specific range of departments or stock numbers to be included on the list. When department sequence is chosen, the items will be listed in stock number order within each department.

First select the list sequence by entering an "X" next to either "Department" or "Stock Number." If no selection is made, the list will be printed in department sequence. Then, if in department sequence, specify the department code or range of department codes to be listed. If in stock number sequence, specify the range of stock numbers to be listed. When no range is specified, all stock items will be listed.

### FIELD DESCRIPTIVES FOR SCREEN R05140S04

#### Excess Stock Lists - Sequence

Specify the sequence in which the stock items will be listed by entering an "X" next to either "Department" or "Stock Number." If no selection is made, the list will be printed in department sequence.

EDIT REQUIREMENTS: Must be a single "X", or left blank.

#### Excess Stock Lists - From Department

Enter the first department code to be included in the printing of the Excess Stock List.

EDIT REQUIREMENTS: Must be a valid department code established through the Update Retail Operations Constants Function, PF Key 12 on the ROM Master Menu, or left blank.

#### Excess Stock Lists - Thru Department

Enter the last department to be included in the printing of the Excess Stock List. If all departments are to be printed, leave this field blank. If only one department is to be printed, enter that department code in the FROM department field and leave this field blank.

**EDIT REQUIREMENTS:** Must be a valid department code established through the Update Retail Operations Constants Function, PF Key 12 on the ROM Master Menu, or left blank.

**Excess Stock Lists - From Stock Number**

Enter the first stock number to be included in the printing of the Excess Stock List.

**EDIT REQUIREMENTS:** Must be a valid stock number established in a Stock Record Master, or left blank.

**Excess Stock Lists - Thru Stock Number**

Enter the last stock number to be included in the printing of the Excess Stock List. If a list of all stock items is to be printed, leave both stock number fields blank.

**EDIT REQUIREMENTS:** Must be a valid stock number established in a Stock Record Master, or left blank.

R05140905

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EXCESS STOCK MANAGEMENT REPORT

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ITEM DESCRIPTION	CODES R I S	PURCH U/M	ON HAND	ON ORDER	MONTHS SUPPLY	EXCESS QTY	EXCESS VALUE
CIG, MORE, TF	B D	CTN	28	0	6	14	50.68
CIGAR, RBT BURNS TIPARILLO	D B	PK	87	0	5	35	41.65
CIGAR, HAVA TAMPA JEWELS	B D	PK	141	0	6	68	106.76
TOBACCO, BORKUM RIFF	B D	PK	43	0	6	22	41.58
CAMERA, KODAK EKTRALITE 10	S M	EA	11	0	11	8	107.60
CAMERA, KODAK DISC 4000	S T	EA	12	0	6	5	97.25
CAMERA, KODAK DISC 6000	S T	EA	10	0	4	3	76.95
TOTAL VALUE OF EXCESS STOCK:							2272.75

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ENTER	CONTINUE	- Display next screen
PF 1	FIRST	- Display first screen
PF 2	BACK	- Display previous screen
PF 3	PRINT	- Print Excess Stock Management Report
PF 16	EXIT	- Exit to Excess Stock Lists Menu

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GENERAL DESCRIPTIVE INFORMATION FOR SCREEN R05140S05

EXCESS STOCK MANAGEMENT REPORT

This screen displays the Excess Stock Management Report, which lists the following information for each item computed to be stocked in excessive quantities: description, Requisition Type, Item, and Special Inventory Codes, purchase unit of measure, on-hand and on-order quantities, number of months' supply available, excess quantity, and the extended cost value of that excess stock. At the end of the report, the total cost value of all excess stock listed. This report is a management tool intended to identify excess stock requiring either markdown, transfer, or survey. All the information on this report is displayed in low intensity, and cannot be modified.

When the user presses the ENTER key, the next screen of the report will be displayed. Pressing PF Key 1 redisplay the first screen of the report, and PF Key 2 displays the previous screen.

Selection of PF Key 3 will cause the RQM System to print a copy of the Excess Stock Management Report. The hardcopy report includes the department code and stock number of each item in addition to the other information displayed on the screen.

Pressing PF Key 16 will terminate display of the Excess Stock Management Report, and return the system to the Excess Stock Lists Menu.

RD5140506

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FLEET EXCESS STOCK LIST

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STOCK NUMBER	ITEM DESCRIPTION	U/M	---PURCHASE---	COST	EXCESS QUANTITY
051110-0003	CANDY, 3 MUSKETEERS	EA		.1609	**357
051110-0006	CANDY, D'HENRY	EA		.1609	**112
051110-0066	CANDY, BUTTERFINGER	EA		.1500	**74
051110-0192	CANDY, M&M MUNCH BAR	EA		.1595	**156
051110-0355	CANDY, SWITZER LICORICE	EA		.1035	**53
051130-0024	CANDY, LIFESAVERS	EA		.1564	**288
051230-0037	CANDY, TOOTSIE POP DROP	EA		.1450	**112
053200-0006	NUTS, PLANTERS MIXED	CN		1.0910	**72
053200-4877	NUTS, SMOKE HOUSE ALMONDS	EA		.1456	**44
101120-0003	CIG, LUCKY STRIKE	CTN		3.1900	**46

ENTER	CONTINUE	- Display next screen
PF 1	FIRST	- Display first screen
PF 2	BACK	- Display previous screen
PF 3	PRINT	- Print Fleet Excess Stock List
PF 4	EXIT	- Exit to Excess Stock Lists Menu

## GENERAL DESCRIPTIVE INFORMATION FOR SCREEN R05140S06

### FLEET EXCESS STOCK LIST

This screen displays the Fleet Excess Stock List, which lists the following information for each item computed to be stocked in excessive quantities: stock number, description, purchase unit of measure and cost, and the excess quantity. The user may review the list on the screen, and change the excess quantities as necessary before printing the list. When a quantity is changed to zero or blanks, it will not be included on the printed list. The Fleet Excess Stock List is intended for distribution to the type commander, NAVRESSO Fleet Assistance Team, and other ships in the area for the purpose of encouraging the transfer of excess stock between ships.

When the user presses the ENTER key, the next screen of the report will be displayed. Pressing PF Key 1 redisplayes the first screen of the report, and PF Key 2 displays the previous screen.

Selection of PF Key 3 will cause the RDM System to print the Fleet Excess Stock List. Because the hardcopy list is printed in an 80-column format, it can be printed on standard-sized paper.

Pressing PF Key 16 will terminate display of the Fleet Excess Stock List, and return the system to the Excess Stock Lists Menu.

### FIELD DESCRIPTIVES FOR SCREEN R05140S06

#### Fleet Excess Stock List - Excess Quantity

The computed excess quantity of each stock item is displayed in this field for review. The user may increase or decrease this figure as appropriate. If changed to either zero or blanks, the item will not be included on the printed Fleet Excess Stock List.

EDIT REQUIREMENTS: Must be a whole number between 0 and 99999, or blank. Decimals and commas are not allowed.

RO5140S07

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EXCESS STOCK LIST BY VENDOR

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VENDOR: C. Lloyd Johnson Co. Inc.

VENDOR NUMBER: N00250-84-D-0021

STOCK NUMBER	ITEM DESCRIPTION	U/M	PRICE	EXCESS	VALUE
051110-0192	CANDY, M&M MUNCH BAR	EA	.1595	156	24.88
051110-0355	CANDY, SWITZER LICORICE	EA	.1035	53	5.49
051130-0024	CANDY, LIFESAVERS	EA	.1564	288	45.05
051230-0037	CANDY, TOOTSIE POP DROP	EA	.1450	112	16.24
053200-0006	NUTS, PLANTERS MIXED	CN	1.0910	72	78.55
053200-4877	NUTS, SMOKE HOUSE ALMONDS	EA	.1456	44	6.41

TOTAL VALUE OF EXCESS STOCK:

228.92

ENTER	CONTINUE	- Display next screen
PF 1	FIRST	- Display first screen
PF 2	BACK	- Display previous screen
PF 3	PRINT	- Print Excess Stock List By Vendor
PF 16	EXIT	- Exit to Excess Stock Lists Menu



## GENERAL DESCRIPTIVE INFORMATION FOR SCREEN R05140507

### EXCESS STOCK LIST BY VENDOR

This screen displays the Excess Stock List By Vendor, and includes the following information for each item computed to be stocked in excessive quantities: stock number, description, purchase unit of measure and cost, excess quantity, and the extended value of the excess stock. Additionally, the stock items listed are grouped by their supplier, with the vendor and vendor number displayed at the top of each screen or page. This list is intended to be used in arranging the return and exchange of excess stock with the vendor from whom the stock was procured. All information is displayed in low intensity, and cannot be modified on this screen.

When the user presses the ENTER key, the next screen of the list will be displayed. Pressing PF Key 1 redisplay the first screen of the list, and PF Key 2 displays the previous screen.

Selection of PF Key 3 will cause the ROM System to print the Excess Stock List By Vendor. Because the hardcopy list is formatted in eighty columns, it can be printed on standard-sized paper.

Pressing PF Key 16 will terminate display of the Excess Stock List By Vendor, and return the system to the Excess Stock Lists Menu.

R05150501

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FOREIGN MERCHANDISE REPORT

=====

Enter report date: DD MMM YY

PF KEY	FUNCTION
PF 3	PRINT a Foreign Merchandise Inventory Count Sheet
PF 4	ENTER inventory quantities
PF 5	PRINT a Foreign Merchandise Report reflecting the Total Balance of each item as shown on the Stock Record Master. (Note: Use only after posting the period inventory.)
PF 16	EXIT to Retail Operations Reports Menu

## GENERAL DESCRIPTIVE INFORMATION FOR SCREEN R05150S01

### FOREIGN MERCHANDISE REPORT

This function allows the user to prepare the Foreign Merchandise Report required to be submitted within forty days of the end of a deployment. Because this report will seldom coincide with an end-of-period inventory, the user is given the option of printing inventory count sheets listing all foreign merchandise included in the Stock Record Master File to be used in determining the actual quantities of foreign stock on board. These quantities may then be entered into the RDM System, and modified by the user to reflect only those quantities that he anticipates difficulty in selling prior to the end of the deployment. When preparing the report concurrently with the period inventory, the user may choose to automatically insert the current Total Balance of each item from its Stock Record Master without taking another separate physical inventory. These reports can also be used as a management tool to monitor the sales of foreign merchandise during a deployment.

The user must first enter the date of the report in standard DDMMYY format. Then, by pressing PF Key 3, Foreign Merchandise Inventory Count Sheets will be printed, listing all items in the Stock Record Master File with a Requisition Type Code "F". Following a physical inventory of all foreign merchandise on board, the user should press PF Key 4 to display a screen on which the inventory quantities recorded on the count sheets can be entered; that screen also permits the Foreign Merchandise Report to be printed.

When a physical inventory has recently been entered into the RDM System, the user may choose to press PF Key 5, which will print a Foreign Merchandise Report reflecting the Total Balance figures from the Stock Record Masters. Pressing PF Key 16 at any time will terminate this function, and cause the system to exit to the Retail Operations Reports Menu.

### FIELD DESCRIPTIVES FOR SCREEN R05150S01

#### Foreign Merchandise Report - Date

Enter the day, month, and year to be printed on the report.

**EDIT REQUIREMENTS:** The report date must be a calendar date in DDMMYY format where the DD is the two-digit day of the month, MMM is the first three letters of that month (JAN, FEB, etc.), and YY is the last two digits of the year.

RO5150502

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FOREIGN MERCHANDISE REPORT

=====

STOCK NUMBER	ITEM DESCRIPTION	QUANTITY
411000-0398	RING, MENS, ONYX, NO910	*****
412000-0076	WATCH, SEIKO MCG05, NO800	*****
412000-0079	WATCH, SEIKO HA191, NO801	*****
412000-0084	WATCH, SEIKO MGH01, NO802	*****
412000-0087	WATCH, SEIKO DIVER, NO805	*****

LAST ITEM IS CURRENTLY BEING DISPLAYED.

ENTER	CONTINUE	- Display next screen
PF 1	FIRST	- Display first screen
PF 2	BACK	- Display previous screen
PF 3	PRINT	- Print Foreign Merchandise Report
PF 16	EXIT	- Exit to Retail Operations Reports Menu

## GENERAL DESCRIPTIVE INFORMATION FOR SCREEN R05150S02

### FOREIGN MERCHANDISE REPORT

This screen allows the user to enter the actual inventory quantities of foreign merchandise, to review and modify those quantities, and to print a Foreign Merchandise Report. The screen displays the stock number and description of every stock item in the Stock Record Master File with a Requisition Type Code "F". Just as on the Foreign Merchandise Inventory Count Sheets, the items are listed in stock number sequence in order to simplify the process of entering the inventory quantities from the count sheets to the screen. Although a report listing the actual on-hand quantities of foreign merchandise is useful as a management tool, the formal report to be submitted to higher authority should include only those items and quantities for which difficulty in liquidation prior to the end of the deployment is anticipated. Therefore, once the inventory quantities have been entered on this screen, the user may then review the list, reducing quantities based on his judgment and experience. Those items with a zero or blank quantity will not be included on the Foreign Merchandise Report.

Pressing the ENTER key on this screen will advance to the next screen. PF Key 1 will return to the first screen of items, while PF Key 2 will redisplay the previous screen. When PF Key 3 is selected, the Foreign Merchandise Report will be printed, reflecting the quantities entered on this screen. Finally, PF Key 16 will exit the system to the Retail Operations Reports Menu.

### FIELD DESCRIPTIVES FOR SCREEN R05150S02

#### Foreign Merchandise Report - Quantity

Enter the actual on-hand quantity of each foreign merchandise item as recorded on the Foreign Merchandise Inventory Count Sheets. These figures may be reduced by the user to reflect only those items for which sales difficulty is anticipated within the remainder of the deployment. If set to zero, or left blank, the item will not be included on the report.

**EDIT REQUIREMENTS:** Must be a whole number between 0 and 99999, or left blank. Decimals and commas are not allowed.

RD1020501

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SET HIGH AND LOW LIMITS

=====

Select sales period on which to base demand:

- \* JUN 84 - SEP 84
- \* FEB 84 - MAY 84
- \* OCT 83 - JAN 84

PF KEY  
-----  
ENTER  
PF 16

FUNCTION  
-----  
CONTINUE  
EXIT to ROM Master Menu

## GENERAL DESCRIPTIVE INFORMATION FOR SCREEN R01020S01

### SET HIGH AND LOW LIMITS

This function allows the user to compute new stock limits for all or selected items based on forecasted demand. These stock limits are then posted to the Stock Record Masters, to be used in the computation of order quantities. While this function may be performed at any time, it should normally be executed at the beginning of each accounting period, and at the beginning and end of each deployment.

This initial screen requires the user to select one of the three previous accounting periods on which to base demand forecasts. Generally, the most recent period most accurately reflects current crew preferences, but in some circumstances, an earlier period might be more appropriate. For example, if the last period was spent in port for maintenance, the preceding period would more closely reflect normal operational demand.

### FIELD DESCRIPTIVES FOR SCREEN R01020S01

#### Set High and Low Limits - Historical Demand Period

Enter a single "X" next to the inclusive dates of the previous accounting period on which the future demand will be forecasted. If left blank, the most recent period will automatically be selected.

EDIT REQUIREMENTS: Must be a single "X" or left blank.

RD1020501A

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SET HIGH AND LOW LIMITS

=====

Provide the following information for MONTH YEAR.

Average number of personnel aboard during the month: \*\*400

Number of days under way during the month: \*\*

PF KEY	FUNCTION
-----	-----
ENTER	CONTINUE
PF 16	EXIT to High and Low Limits Menu



## GENERAL DESCRIPTIVE INFORMATION FOR SCREEN R01020S01A

### SET HIGH AND LOW LIMITS

This intermediate screen will be displayed only when any of the monthly days under way figures were not previously entered through screen R05100S01 of the Inventory Control Function for the historical demand period selected. This screen will be redisplayed for each of the four months in that period for which the information is missing.

For the the month and year displayed at the top of the screen, review and correct as necessary the average number of personnel aboard the ship, including embarked troops, air wing, and staff personnel. If a significant number of personnel embarked or debarked during the month, a weighted average should be calculated. Then enter the actual number of days the ship was under way during that month.

### FIELD DESCRIPTIVES FOR SCREEN R01020S01A

#### Set High and Low Limits - Number of Men

The average number of personnel aboard the ship during the month shown at the top of the screen will reflect the normal crew size established in the Ship's Constants File. Verify and correct this figure as necessary to represent actual changes in shipboard manning.

EDIT REQUIREMENTS: Must be a value between 1 and 99999. Decimals and commas are not allowed.

#### Set High and Low Limits - Days Under Way

Enter the actual number of days the ship was under way during the month shown at the top of the screen. Any part of a day spent at sea should be considered a day under way.

EDIT REQUIREMENTS: Must be a whole number between 0 and 31. Decimals and commas are not allowed.

RD1020502

=====

SET HIGH AND LOW LIMITS

=====

CURRENT SHIP'S INFORMATION

Ship's Status:   \* CONUS  
                  \* Deployed

Number of months deployment remaining:   \*\*

Estimated average number of men aboard  
through the end of the current period:   \*\*\*\*

Estimated average number of under way days  
per month through the end of the period:   \*\*

PF KEY           FUNCTION

-----  
ENTER           CONTINUE

PF 16           EXIT to High and Low Limits Menu

## GENERAL DESCRIPTIVE INFORMATION FOR SCREEN R01020S02

### SET HIGH AND LOW LIMITS

This intermediate screen requires the user to enter the current status of the ship (CONUS or Deployed), and the number of months deployment remaining. He must also estimate the average number of personnel that will be aboard the ship through the end of the current accounting period, and the average number of under way days per month during the same period. These figures are used to forecast the demand for the remainder of the current period.

First enter an "X" next to either "CONUS" or "Deployed" to indicate the ship's current status. Next enter the nearest whole number of months deployment remaining; if in CONUS, leave blank.

Then enter the estimated average number of personnel that will be aboard the ship through the end of the current accounting period. When a large number of personnel will either embark or debark during the period, a weighted average should be calculated. For example, if an amphibious ship with a crew of 200 is expected to embark 400 Marines for three of the next four months, the weighted average number of personnel would be computed as follows:

$$\frac{[ 1 \text{ month } \times 200 \text{ men } ] + [ 3 \text{ months } \times 600 \text{ men } ]}{4.0 \text{ months}} = 500 \text{ men}$$

Finally, enter the estimated number of under way days per month through the end of the current period. This figure is the simple arithmetic mean of the scheduled under way days for each of the remaining months in the accounting period. The required schedule information should be obtained from the ship's Operations Officer.

### FIELD DESCRIPTIVES FOR SCREEN R01020S02

#### Set High and Low Limits - Ship's Status

Enter a single "X" next to either "CONUS" or "Deployed" to indicate the ship's current status.

EDIT REQUIREMENTS: Must be a single "X".

**Set High and Low Limits - Months Deployment Remaining**

Enter the whole number of months deployment remaining, rounding any period greater than fourteen days up to a whole month. When the ship is in CONUS, leave this field blank.

**EDIT REQUIREMENTS:** Must be a whole number between 0 and 99, or may be left blank.

**Set High and Low Limits - Estimated Number of Men**

Enter the estimated average number of personnel expected to be aboard the ship through the remainder of the current accounting period. Include embarked Marines, air wing, and staff personnel, and use a weighted average calculation if necessary.

**EDIT REQUIREMENTS:** Must be a whole number between 1 and 99999. This field cannot be left blank.

**Set High and Low Limits - Estimated Under Way Days**

Enter the estimated number of under way days per month through the end of the current accounting period based on the most current ship's schedule information.

**EDIT REQUIREMENTS:** Must be a whole number between 0 and 31. This field cannot be left blank.

RD1020S03

=====

SET HIGH AND LOW LIMITS

=====

ORDER AND SHIPPING TIME

Enter the average number of days between the submission of  
a requisition or purchase order and receipt of material  
from each of the following sources:

\*\* Contract Bulletin  
\*\* CARGO  
\*\* Foreign Merchandise Program  
\*\* Ships Store Afloat Catalog (SSAC)  
\*\* Navy Standard Stock

PF KEY	FUNCTION
-----	-----
ENTER	CONTINUE
PF 16	EXIT to High and Low Limits Menu

## GENERAL DESCRIPTIVE INFORMATION FOR SCREEN R01020S03

### SET HIGH AND LOW LIMITS

This intermediate screen requires the user to specify the order and shipping time (O&ST) for each of the five sources of supply corresponding to the Requisition Type Codes. The average time between submission of a requisition or purchase order, and receipt of the merchandise varies widely depending on the source, and on the ship's schedule and location. While in homeport, most stock can be ordered and received the same day. Overseas however, O&ST is routinely thirty days or more, contingent on the arrival of the next replenishment ship or return to a Naval Supply Depot. These variances must be accounted for in order to set accurate stock limits.

Enter the average number of days between the submission of a requisition or purchase order and receipt of the material from each of the five sources listed. If no entry is made, the O&ST for that source will be set equal to one.

### FIELD DESCRIPTIVES FOR SCREEN R01020S03

#### Set High and Low Limits - O&ST, Contract Bulletin

Enter the average order and shipping time in days from Contract Bulletin vendors. If left blank, a value of one will be assigned.

EDIT REQUIREMENTS: Must be a number between 1 and 99, or left blank. Decimals and commas are not allowed.

#### Set High and Low Limits - O&ST, CARGO

Enter the average order and shipping time in days from CARGO sources such as MLSF replenishment ships and Naval Supply Depots. If left blank, a value of one will be assigned.

EDIT REQUIREMENTS: Must be a number between 1 and 99, or left blank. Decimals and commas are not allowed.

**Set High and Low Limits - O&ST, Foreign Merchandise**

Enter the average order and shipping time in days from overseas Navy Exchanges. If left blank, a value of one will be assigned.

EDIT REQUIREMENTS: Must be a number between 1 and 99, or left blank. Decimals and commas are not allowed.

**Set High and Low Limits - O&ST, Ships Store Afloat Catalog**

Enter the average order and shipping time in days from SSAC vendors. If left blank, a value of one will be assigned.

EDIT REQUIREMENTS: Must be a number between 1 and 99, or left blank. Decimals and commas are not allowed.

**Set High and Low Limits - O&ST, Navy Stock**

Enter the average order and shipping time in days from Naval Supply Centers and Depots. If left blank, a value of one will be assigned.

EDIT REQUIREMENTS: Must be a number between 1 and 99, or left blank. Decimals and commas are not allowed.

**SET HIGH AND LOW LIMITS**

List to be displayed in sequence by:

## RANGE

To display all items, leave the RANGE information below blank.  
To display all items in one department, specify FROM department only.

From Department	**	Thru Department	**
-----------------	----	-----------------	----

**OR**

 From Stock Number | Thru Stock Number |

PF KEY	FUNCTION
ENTER	VIEW High and Low Limits
PF 16	EXIT to High and Low Limits Menu



## GENERAL DESCRIPTIVE INFORMATION FOR SCREEN RD1020S04

### SET HIGH AND LOW LIMITS

This intermediate screen allows the user to choose whether the list of stock limits will be displayed in sequence by department or by stock number, and to select a specific range of departments or stock numbers to include on the list for stock limit computation. When department sequence is chosen, the items will be listed in stock number order within each department. This function should normally be performed in small batches of departments or stock numbers rather than all at once in order to reduce processing and review time.

First select the list sequence by entering an "X" next to either "Department" or "Stock Number." If no selection is made, the list will be printed in department sequence. Then, if in department sequence, specify the department code or range of department codes to be listed. If in stock number sequence, specify the range of stock numbers to be listed. When no range is specified, all stock items will be listed.

### FIELD DESCRIPTIVES FOR SCREEN RD1020S04

#### Set High and Low Limits - Sequence

Specify the sequence in which the stock items will be listed by entering an "X" next to either "Department" or "Stock Number." If no selection is made, the list will be printed in department sequence.

EDIT REQUIREMENTS: Must be a single "X", or left blank.

#### Set High and Low Limits - From Department

Enter the first department for which stock limits are to be computed.

EDIT REQUIREMENTS: Must be a valid department code established through the Update Retail Operations Constants Function, PF Key 12 on the ROM Master Menu, or left blank.

#### Set High and Low Limits - Thru Department

Enter the last department in the range of departments for which stock limits are to be computed. If the stock in all departments is to be processed, leave this field blank. If only one department is to be included, enter that department code in the FROM department field and leave this field blank.

EDIT REQUIREMENTS: Must be a valid department code established through the Update Retail Operations Constants Function, PF Key 12 on the ROM Master Menu, or left blank.

#### Set High and Low Limits - From Stock Number

Enter the first stock number for which stock limits are to be computed.

EDIT REQUIREMENTS: Must be a valid stock number established in a Stock Record Master, or left blank.

#### Set High and Low Limits - Thru Stock Number

Enter the last stock number in the range of items for which stock limits are to be computed. If all stock items are to be processed, leave both stock number fields blank.

EDIT REQUIREMENTS: Must be a valid stock number established in a Stock Record Master, or left blank.

RD1020505

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SET HIGH AND LOW LIMITS

=====

ITEM DESCRIPTION	CODES R I S	SALE U/M	HISTORICAL DEMAND				FORECAST		STOCK LIMITS	
			OCT83- JAN84	FEB84- MAY84	JUN84- SEP84	OCT84- JAN85	HIGH	LOW		
CANDY, BUTTERFINGER	D B	EA	621	764	912	1064	**798	.532		
CANDY, BABY RUTH	D B	EA	536	647	655	768	**576	**384		
CANDY, REESES CUP	D B	EA	1358	1289	1532	1768	*1326	**884		
CANDY, HERSHEY ALMON	D B	EA	1289	1554	1688	1828	*1371	**914		
CANDY, HERSHEY MILK	D B	EA	1432	1465	1769	1984	*1488	**992		
CANDY, NESTLE CRUNCH	D B	EA	1184	1362	1503	1696	*1272	**848		
CANDY, M&M PLAIN	D B	EA	960	1094	1143	1364	*1023	**682		
CANDY, M&M MUNCH BAR	B T S	EA	0	0	367	452	**337	**113		
CANDY, MILKY WAY	D B	EA	1107	1258	1322	1560	*1170	**780		
CANDY, HERSHEY BIG B	D B	EA	647	788	812	940	**708	**472		

ENTER	CONTINUE	- Display next screen
PF 1	FIRST	- Display first screen
PF 2	BACK	- Display previous screen
PF 3	POST	- Post High and Low Limits to Stock Records
PF 16	EXIT	- Exit to Menu - DO NOT POST LIMITS

## GENERAL DESCRIPTIVE INFORMATION FOR SCREEN R01020S05

### SET HIGH AND LOW LIMITS

This screen displays the new stock limits computed by the ROM System. In addition, the following information is shown for each item: description, Requisition Type, Item, and Special Inventory Codes, retail unit of measure, historical demand quantities from each of the previous three accounting periods, and the forecasted demand for the current period. The user should review this information, and based on his judgment and experience, change the stock limits as necessary before posting the new limits to the Stock Record Masters.

To review the list of stock limits, the user should press the ENTER key to advance to the next screen, PF Key 1 to return to the first screen, and PF Key 2 to redisplay the previous screen. When PF Key 3 is pressed, the stock limits as modified will be posted to the Stock Record Masters. By pressing PF Key 16, the Set High and Low Limits Menu will be displayed without posting the new stock limits.

### FIELD DESCRIPTIVES FOR SCREEN R01020S05

#### Set High and Low Limits - High Limit

Review the High Limit displayed, and change as necessary.

EDIT REQUIREMENTS: Must be a whole number between 0 and 99999. Decimals and commas are not allowed.

#### Set High and Low Limits - Low Limit

Review the Low Limit displayed, and change as necessary.

EDIT REQUIREMENTS: Must be a whole number between 0 and 99999. Decimals and commas are not allowed.



RUN DATE: 27 JUL 84  
 RUN TIME: 10:35  
 RUN I.D.: JLM

STOCK RECORD MASTER LIST  
 DEPARTMENT SEQUENCE

DEPT	STOCK NUMBER	DESCRIPTION	CARGO	CODES	PURCHASE / REQUISITION		---RETAIL---		ON-HAND-QTY		OUTST. ORDERS	STOCK-LIMIT		
					U/M	COST	DATE	U/M	PRICE	BULK		TOTAL	HIGH	LOW
A1	051110-0066	CANDY, BUTTERFINGER	0002	D B	EA	.1500	21JUN84	EA	.25	576	963	0	798	532
A1	051110-0067	CANDY, BABY RUTH	0001	D B	EA	.1500	21JUN84	EA	.25	480	774	0	576	384
A1	051110-0073	CANDY, REESES CLIP	0016	D B	EA	.1570	21JUN84	EA	.25	864	1431	0	1326	884
A1	051110-0074	CANDY, HERSHEY ALMONDS	0004	D B	EA	.1600	21JUN84	EA	.25	1124	1544	0	1371	914
A1	051110-0075	CANDY, HERSHEY MILK CHOC	0005	D B	EA	.1600	21JUN84	EA	.25	1040	1816	0	1488	992
A1	051110-0156	CANDY, NESTLE CRUNCH	0022	D B	EA	.1609	21JUN84	EA	.25	720	1635	0	1272	848
A1	051110-0184	CANDY, M&M PLAIN	0008	D B	EA	.1609	21JUN84	EA	.25	848	1353	0	1023	682
A1	051110-0187	CANDY, MILKY WAY	0009	D B	EA	.1609	21JUN84	EA	.25	468	1552	0	1170	780
A1	051110-0283	CANDY, HERSHEY BIG BLOCK	0020	D B	EA	.2890	21JUN84	EA	.40	372	796	0	708	472
A1	053200-0003	NUTS, PLANTERS PEANUTS	0133	D B	CN	.9030	11JUL84	CN	1.10	96	147	0	123	82
A1	053200-0006	NUTS, PLANTERS MIXED	0132	D B	CN	1.0910	11JUL84	CN	1.05	96	149	0	102	68
A1	053200-0011	NUTS, PLANTERS CASHEWS	0131	D B	CN	2.2448	11JUL84	CN	2.55	60	76	0	66	44
A1	053200-0052	NUTS, PLANTERS SPANISH PE	0134	D B	CN	.9030	11JUL84	CN	1.10	84	123	0	93	62
A1	053200-4877	NUTS, SMOKE HOUSE ALMONDS	0301	D B	EA	.1456	11JUL84	EA	.25	360	541	0	429	286
A2	101120-0002	CIG, CAMEL REG	0301	D B	CTN	3.1900	13JUN84	PK	.40	520	1342	600	1050	700
A2	101120-0004	CIG, VANTAGE REG	0317	D B	CTN	3.1900	13JUN84	PK	.40	360	958	300	630	420
A2	101120-0007	CIG, CAMEL FILTER	0316	D B	CTN	3.7900	13JUN84	PK	.40	1120	1563	600	1860	1240
A2	101210-0007	CIG, MARLBORO REG	0305	D B	CTN	3.4600	06JUN84	PK	.40	2420	5174	1200	3930	2620
A2	101210-0007	CIG, MARLBORO LIGHT	0320	D B	CTN	3.4600	06JUN84	PK	.40	1910	4127	600	2940	1960
A2	101210-0008	CIG, MERIT REG	0310	D B	CTN	3.7910	06JUN84	PK	.40	510	733	0	690	460
A2	101210-0009	CIG, WINSTON REG	0318	D B	CTN	3.6200	06JUN84	PK	.40	1720	4876	1200	3060	2040
A2	101210-0015	CIG, WINSTON LIGHT	0318	D B	CTN	3.6200	06JUN84	PK	.40	1150	1767	0	1410	940
A2	101210-0021	CIG, PALL MALL REG	0306	D B	CTN	3.8000	13JUN84	PK	.40	1590	3254	600	2490	1660
A2	101210-0026	CIG, KOOL REG	0312	D B	CTN	3.4900	18JUL84	PK	.40	3610	4947	0	3750	2500
A2	101220-0001	CIG, KOOL LIGHT	0312	D B	CTN	3.6100	18JUL84	PK	.40	1190	1723	0	1260	840
A2	101220-0004	CIG, SALEM REG	0308	D B	CTN	3.7100	13JUN84	PK	.40	1780	4922	1200	3150	2100
A2	101220-0010	CIG, SALEM LIGHT	0321	D B	CTN	3.7300	13JUN84	PK	.40	910	2140	600	1530	1020
A2	101220-0015	CIG, PLAYERS	0321	D B	CTN	3.8100	06JUN84	PK	.40	420	600	0	600	200
A2	101220-0058	CIG, MORE REG	0328	D B	CTN	3.6200	06JUN84	PK	.40	520	849	0	690	460
A2	101310-0041	CIGAR, DUTCH MASTER, PANATE	0328	D B	PK	1.1200	09MAY84	PK	1.25	50	103	50	105	70
A2	102100-0013	CIGAR, RBT BURNS TIPARILLO	0327	D B	PK	.9200	27JUN84	PK	1.00	94	157	0	123	82
A2	102100-0036	CIGAR, HOUSE WINDSOR PALMA	0327	D B	PK	1.5700	27JUN84	PK	1.75	71	136	0	99	66
A2	102100-0067	CIGAR, DUTCH MASTER PRESED	0331	D B	PK	1.9100	09MAY84	PK	2.25	24	48	0	48	16
A2	102100-0074	CIGAR, HAVA TAMPA JENELS	0331	D B	PK	1.5700	27JUN84	PK	1.45	87	149	0	108	72
A2	102100-0099	CIGAR, PHILLIES PERFECTO	0334	D B	PK	1.0700	27JUN84	PK	1.30	78	127	0	93	62
A2	102100-0102	TOBACCO, WALTER RALEIGH	0335	D B	EA	1.6200	09MAY84	EA	1.85	16	31	24	36	24
A2	103310-0007	TOBACCO, CHERRY BLEND	0351	D B	EA	1.9300	09MAY84	EA	2.25	24	57	48	66	44
A2	103310-0066	TOBACCO, BORKUM RIFF	0360	D B	EA	1.4700	13JUN84	EA	1.65	36	67	0	48	32
A2	103310-0072	TOBACCO, HALF AND HALF	0353	D B	EA	1.5500	13JUN84	EA	1.75	48	73	0	54	36
A2	103310-0080	TOBACCO, MIXTURE 79	0354	D B	EA	1.7100	07JUN84	EA	2.00	32	63	0	42	28
A2	103310-0086	PIPE, PETERSON BRIAR	0384	D B	EA	5.6700	13JUN84	EA	6.50	8	17	0	12	8
A2	104110-0038	LIGHTER, BIC, DISPOSABLE	0384	D B	EA	.8300	21JUL84	EA	.95	44	141	0	78	52
A2	104210-0005	LIGHTER FLUID, ZIPPO	0385	D B	CN	.7300	11JUL84	CN	.85	36	67	0	42	28
A2	104310-3812	LIGHTER FLUID, BUTANE	0385	D B	CN	1.4300	09MAY84	CN	1.75	0	7	12	9	6

## SHIPS STORE PRICE LIST

USS JOHN HANCOCK DD-981

27 JUL 84

DEPT	STOCK NUMBER	DESCRIPTION	U/M	PRICE
A1	051110-0003	CANDY, 3 MUSKETEERS	EA	.25
A1	051110-0057	CANDY, HERSHEY KRACKEL	EA	.25
A1	051110-0066	CANDY, BUTTERFINGER	EA	.25
A1	051110-0067	CANDY, BABY RUTH	EA	.25
A1	051110-0073	CANDY, REESES CUP	EA	.25
A1	051110-0074	CANDY, HERSHEY ALMONDS	EA	.25
A1	051110-0075	CANDY, HERSHEY PLAIN	EA	.25
A1	051110-0184	CANDY, M&M PLAIN	EA	.25
A1	051110-0187	CANDY, MILKY WAY	EA	.25
A1	051110-0283	CANDY, HERSHEY BIG BLOCK	EA	.40
A1	053200-0003	NUTS, PLANTERS PEANUTS	CN	1.10
A1	053200-0006	NUTS, PLANTERS MIXED	CN	1.05
A1	053200-0011	NUTS, PLANTERS CASHEWS	CN	2.55
A1	053200-0052	NUTS, PLANTERS SPANISH PEA	CN	1.10
A1	053200-4877	NUTS, SMOKE HOUSE ALMONDS	EA	.25
A2	101120-0002	CIG, CAMEL REG	PK	.40
A2	101120-0004	CIG, VANTAGE REG	PK	.40
A2	101120-0007	CIG, CAMEL FILTER	PK	.40
A2	101210-0007	CIG, MARLBORO REG	PK	.40
A2	101210-0008	CIG, MARLBORO LIGHT	PK	.40
A2	101210-0009	CIG, MERIT REG	PK	.40
A2	101210-0015	CIG, WINSTON REG	PK	.40
A2	101210-0021	CIG, WINSTON LIGHT	PK	.40
A2	101210-0026	CIG, FILL MALL REG	PK	.40
A2	101220-0001	CIG, KOOL REG	PK	.40
A2	101220-0004	CIG, KOOL LIGHT	PK	.40
A2	101220-0010	CIG, SALEM REG	PK	.40
A2	101220-0013	CIG, SALEM LIGHT	PK	.40
A2	101220-0058	CIG, PLAYERS	PK	.40
A2	101310-0041	CIG, MORE REG	PK	.40
A2	102100-0013	CIGAR, DUTCH MASTER, PANATEL	PK	1.25
A2	102100-0036	CIGAR, RBT BURNS TIPARILLOS	PK	1.00
A2	102100-0067	CIGAR, HOUSE WINDSOR PALMAS	PK	1.75
A2	102100-0074	CIGAR, DUTCH MASTER PRESIDE	PK	2.25
A2	102100-0099	CIGAR, HAVA TAMPA JEWELS	PK	1.45
A2	102100-0102	CIGAR, PHILLIES PERFECTO	PK	1.30
A2	103310-0007	TOBACCO, WALTER RALEIGH	EA	1.85
A2	103310-0066	TOBACCO, BORKUM RIFF	EA	2.25
A2	103310-0072	TOBACCO, CHERRY BLEND	EA	1.65
A2	103310-0080	TOBACCO, HALF AND HALF	EA	1.75
A2	103310-0086	TOBACCO, MIXTURE 79	EA	2.00
A2	104110-0038	PIPE, PETERSON BRIAR	EA	6.50
A2	104210-0005	LIGHTER, BIC, DISPOSABLE	EA	.95
A2	104310-3812	LIGHTER FLUID, ZIPPO	CN	.85
A2	104310-4200	LIGHTER FLUID, BUTANE	CN	1.75

RUN DATE: 27 JUL 84  
 RUN TIME: 10:15  
 RUN I.D.: JLM

ORDER QUANTITIES  
 REON TYPE CODE C

DEPT	STOCK NUMBER	DESCRIPTION	CODES R I B	U/M	PURCHASE COST	CASE	ON-HAND--BULK	QTY	PURCHASE UNITS OF MEASURE ON ORDER	STOCK HIGH	LOW	ORDER QTY	ORDER VALUE
A1	051110-0066	CANDY, BUTTERFINGER	D B	EA	.1500	288	576	963	0	798	532	288	43.20
A1	051110-0067	CANDY, BABY RUTH	D B	EA	.1500	288	480	774	0	576	384	0	0
A1	051110-0073	CANDY, REESES CLIP	D B	EA	.1570	432	864	1431	0	1326	884	432	67.82
A1	051110-0074	CANDY, HERSHEY ALMONDS	D B	EA	.1680	432	1124	1544	0	1371	914	0	0
A1	051110-0075	CANDY, HERSHEY MILK CHOC	D B	EA	.1680	432	1040	1816	0	1488	992	432	69.12
A1	051110-0156	CANDY, NESTLE CRUNCH	D B	EA	.1409	360	720	1635	0	1272	848	720	115.85
A1	051110-0184	CANDY, M&M PLAIN	D B	EA	.1609	360	848	1353	0	1023	682	0	0
A1	051110-0187	CANDY, MILKY WAY	D B	EA	.1609	360	468	1532	0	1170	780	720	115.85
A1	051110-0283	CANDY, HERSHEY BIG BLOCK	D B	EA	.2890	288	372	796	0	708	472	288	83.23
A1	053200-0003	NUTS, PLANTERS PEANUTS	D B	CN	.9030	12	96	167	0	123	82	24	21.67
A1	053200-0006	NUTS, PLANTERS MIXED	D B	CN	1.0910	12	96	149	0	102	68	0	0
A1	053200-0011	NUTS, PLANTERS CASHEWS	D B	CN	2.2448	12	84	123	0	66	44	0	0
A1	053200-0052	NUTS, PLANTERS SPANISH P	D B	CN	.9030	12	84	123	0	93	62	12	10.84
A2	101120-0002	CIG, CANEL REG, TF	D B	CTN	3.1900	60	52	134	0	105	70	60	191.40
A2	101120-0004	CIG, VANTAGE REG, TF	D B	CTN	3.1900	60	36	96	30	63	42	0	0
A2	101210-0007	CIG, MARLBORO REG, TF	D B	CTN	3.4600	60	242	517	120	393	262	0	0
A2	101210-0008	CIG, MARLBORO LIGHT, TF	D B	CTN	3.7600	60	191	413	60	294	196	60	207.60
A2	101210-0009	CIG, MERIT REG, TF	D B	CTN	3.7910	60	51	73	0	69	46	0	0
A2	101210-0015	CIG, WINSTON REG, TF	D B	CTN	3.6200	60	172	487	0	306	204	120	434.40
A2	101210-0021	CIG, WINSTON LIGHT, TF	D B	CTN	3.6200	60	115	176	0	141	94	0	0
A2	101210-0026	CIG, PALL MALL REG, TF	D B	CTN	3.8000	60	159	325	0	249	166	60	228.00
A2	101220-0001	CIG, KOOL REG, TF	D B	CTN	3.6800	30	361	494	0	375	250	0	0
A2	101220-0010	CIG, SALEM REG, TF	D B	CTN	3.7600	60	178	492	0	315	210	120	445.20
A2	101220-0015	CIG, SALEM LIGHT, TF	D B	CTN	3.7800	60	91	214	0	153	102	60	223.80
A2	102100-0013	CIGAR, DUTCH MASTER, PANAT	D B	PK	1.1200	500	50	103	0	105	70	0	0
A2	102100-0036	CIGAR, RBT BURNS TIPARILL	D B	PK	.9200	960	94	157	0	123	82	0	0
A2	102100-0099	CIGAR, HAVA TAMPA JEWELS	D B	PK	1.2200	400	87	149	0	108	72	0	0
A2	102100-0102	CIGAR, PHILLIES PERFECTO	D B	PK	1.0700	500	78	127	0	93	62	0	0
A2	103310-0007	TOBACCO, WALTER RALEIGH	D B	PB	1.6200	144	16	31	0	36	24	0	0
A2	103310-0066	TOBACCO, BORKUM RIFF	D B	PB	1.9300	144	24	57	0	46	44	0	0
A2	103310-0072	TOBACCO, CHERRY BLEND	D B	PB	1.4700	144	36	67	0	48	32	0	0
A2	103310-0080	TOBACCO, HALF AND HALF	D B	PB	1.5500	144	48	73	0	54	36	0	0
A2	103310-0086	TOBACCO, MIXTURE 79	D B	PB	1.7100	144	32	63	0	42	28	0	0
A2	104310-3812	LIGHTER FLUID, ZIPPO	D B	CN	.7300	24	36	67	0	42	28	0	0
A2	104310-4200	LIGHTER FLUID, BUTANE	D B	CN	1.4300	12	0	7	0	9	6	12	17.16



RUN DATE: 01 OCT 84  
 RUN TIME: 11:13  
 RUN I.D.: JLM

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 EXCESS STOCK MANAGEMENT REPORT  
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PAGE 1

DEPT	STOCK NUMBER	DESCRIPTION	CODES R I S	U/M	PURCHASE COST	ON HAND	ON ORDER	MONTHS SUPPLY	EXCESS QUANTITY	EXCESS VALUE
A1	051110-0003	CANDY, 3 MUSKETEERS	D B	EA	.1609	873	0	5	357	57.44
A1	051110-0006	CANDY, D'HENRY	B	EA	.1609	311	0	5	112	18.02
A1	051110-0066	CANDY, BUTTERFINGER	D B	EA	.1500	337	0	4	74	11.10
A1	051110-0156	CANDY, NESTLE CRUNCH	D B	EA	.1609	2318	0	6	1012	162.83
A1	051110-0184	CANDY, M&M PLAIN	D B	EA	.1609	2162	0	6	824	132.58
A1	051110-0192	CANDY, MUNCH BAR, M&M	B	EA	.1595	794	0	5	317	50.56
A1	051110-0355	CANDY, SWITZER LICORICE	D	EA	.1035	93	0	8	53	5.49
A1	051130-0024	CANDY, LIFESAVERS, ASST	D	EA	.1564	733	0	5	288	45.04
A1	051230-0037	CANDY, Tootsie POP DROP	B T	EA	.1450	217	0	6	112	16.24
A1	053200-0006	NUTS, MIXED, PLANTERS	D B	CN	1.0910	147	0	6	72	78.55
A1	053200-4877	NUTS, SMOKE HOUSE ALMONDS	B D	EA	.1456	176	0	4	44	6.41
A2	101120-0003	CIS, LUCKY STRIKE, TP	B	CTN	3.1900	117	0	5	46	146.74
A2	101120-0004	CIS, VANTAGE, TP	D B	CTN	3.1900	86	0	4	21	68.99
A2	101120-0006	CIS, KENT GOLDEN LT, TP	B	CTN	3.1900	27	0	9	18	57.42
A2	101120-0007	CIS, CAMEL FILTER, TP	B D	CTN	3.7910	155	0	4	38	144.02
A2	101120-0009	CIS, MERIT REG, TP	D B	CTN	3.6200	168	0	4	16	60.66
A2	101120-0015	CIS, WINSTON REG, TP	D B	CTN	3.8000	71	0	6	35	236.92
A2	101120-0026	CIS, FALL MALL FILTER, TP	B T	CTN	3.8100	29	0	6	15	57.15
A2	101210-0053	CIS, BARCLAY FILTER, TP	D B	CTN	3.6100	83	0	7	47	169.67
A2	101220-0004	CIS, KOOL LIGHTS, TP	B T	CTN	3.8100	39	0	8	24	91.44
A2	101220-0058	CIS, PLAYERS KING, TP	B D	CTN	3.6200	28	0	6	14	50.68
A2	101310-0041	CIS, MORE, TP	D B	PK	1.1900	87	0	5	35	41.65
A2	102100-0036	CIGAR, TIFARILLO	D B	PK	1.5700	141	0	4	68	106.76
A2	102100-0099	CIGAR, HAVA TAMPA JEMEL	D B	EA	1.8900	43	0	6	22	41.58
A2	103310-0066	TOBACCO, BORKUM RIFF	S	EA	13.4500	11	0	11	8	107.60
B1	381130-1000	CAMERA, KODAK EKTRALITE	S T	EA	19.4500	12	0	4	5	97.25
B1	381410-4000	CAMERA, KODAK D18C 4000	S T	EA	25.6500	10	0	4	3	76.95
B1	381410-6000	CAMERA, KODAK D18C 6000	S T	EA						
TOTAL VALUE OF EXCESS STOCK:										2272.75

# SHIPS STORE AFLOAT EXCESS STOCK LIST

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USS JOHN HANCOCK DD-981	UIC: V20613	01 OCT 84
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STOCK NUMBER	DESCRIPTION	---PURCHASE---		EXCESS QUANTITY
		U/M	COST	
051110-0003	CANDY, 3 MUSKETEERS	EA	.1609	357
051110-0006	CANDY, O'HENRY	EA	.1609	112
051110-0066	CANDY, BUTTERFINGER	EA	.1500	74
051110-0192	CANDY, MUNCH BAR, M&M	EA	.1595	156
051110-0355	CANDY, SWITZER LICORICE	EA	.1035	53
051130-0024	CANDY, LIFESAVERS, ASST	EA	.1564	288
051230-0037	CANDY, TOOTSIE POP DROP	EA	.1450	112
053200-0006	NUTS, PLANTERS MIXED	CN	1.0910	72
053200-4877	NUTS, SMOKE HOUSE ALMONDS	EA	.1456	44
101120-0003	CIG, LUCKY STRIKE, TP	CTN	3.1900	46
101120-0004	CIG, VANTAGE, TP	CTN	3.1900	21
101120-0006	CIG, KENT GOLDEN LT, TP	CTN	3.1900	18
101120-0007	CIG, CAMEL FILTER, TP	CTN	3.7900	38
101120-0009	CIG, MERIT REG, TP	CTN	3.7910	16
101120-0015	CIG, WINSTON REG, TP	CTN	3.6200	66
101120-0026	CIG, PALL MALL FILTER, TP	CTN	3.8000	35
101210-0053	CIG, BARCLAY FILTER, TP	CTN	3.8100	15
101220-0004	CIG, KOOL LIGHTS, TP	CTN	3.6100	47
101220-0058	CIG, PLAYERS KING, TP	CTN	3.8100	24
101310-0041	CIG, MORE, TP	CTN	3.6200	14
102100-0036	CIGAR, TIPARILLO	PK	1.1900	35
102100-0099	CIGAR, HAVA TAMPA JEWEL	PK	1.5700	68
103310-0066	TOBACCO, BORKUM RIFF	EA	1.8900	22
381130-1000	CAMERA, KODAK EKTRALITE	EA	13.4500	8
381410-4000	CAMERA, KODAK DISC 4000	EA	19.4500	5
381410-6000	CAMERA, KODAK DISC 6000	EA	25.6500	3

RUN DATE: 01 OCT 84  
RUN TIME: 13:15  
RUN I.D.: JLM

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EXCESS STOCK LIST  
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PAGE 1

VENDOR: C. LLOYD JOHNSON CO. INC.

VENDOR NUMBER: N00250-84-D-0021

STOCK NUMBER	DESCRIPTION	U/M	---PURCHASE--- COST	EXCESS QUANTITY	EXCESS VALUE
051110-0003	CANDY, 3 MUSKETEERS	EA	.1609	144	23.17
051110-0006	CANDY, O'HENRY	EA	.1609	112	18.03
051110-0066	CANDY, BUTTERFINGER	EA	.1500	74	11.10
051110-0192	CANDY, MUNCH BAR, M&M	EA	.1595	156	24.88
051110-0355	CANDY, SWITZER LICORICE	EA	.1035	53	5.49
051130-0024	CANDY, LIFESAVERS, ASST	EA	.1564	288	45.05
051230-0037	CANDY, TOOTSIE POP DROP	EA	.1450	112	16.24
053200-0006	NUTS, PLANTERS MIXED	CN	1.0910	72	78.55
053200-4877	NUTS, SMOKE HOUSE ALMONDS	EA	.1456	44	6.41
TOTAL VALUE OF EXCESS STOCK:					228.92

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 FOREIGN MERCHANDISE INVENTORY COUNT SHEET  
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STOCK NUMBER	DESCRIPTION	LOCATION	U/M	QUANTITY
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128000-0458	PERFUME,SHALIMAR, NO720		EA	_____
214220-0257	CLOCK,SHIPS BELL,NO510		EA	_____
234000-0124	RECORDER,SONY WM-R2,NO100		EA	_____
234000-0178	RECORDER,SONY WA-55,NO110		EA	_____
381500-0578	CAMERA,OLYMPUS OM10,NO225		EA	_____
381500-0585	FLASH,OLYMPUS T-20,NO226		EA	_____
411000-0301	BRACELET,CAMEO, N892		EA	_____
411000-0305	EARRINGS,CAMEO, NO906		PR	_____
411000-0310	PENDANT,CAMEO, NO902		EA	_____
411000-0314	RING,LADIES,CAMEO, NO894		EA	_____
411000-0398	RING,MENS,ONYX, NO910		EA	_____
412000-0076	WATCH,SEIKO MCG05, NO800		EA	_____
412000-0079	WATCH,SEIKO HA191, NO801		EA	_____
412000-0084	WATCH,SEIKO MGH01, NO802		EA	_____
412000-0087	WATCH,SEIKO DIVER, NO805		EA	_____

# FOREIGN MERCHANDISE REPORT

USS JOHN HANCOCK DD-981

UIC: V20613

27 JUL 84

STOCK NUMBER	DESCRIPTION	DATE OF RECEIPT	U/M	-PURCHASE- COST	QTY	VALUE
128000-0458	PERFUME,SHALIMAR, NO720	22MAY84	EA	28.0500	10	280.50
214220-0257	CLOCK,SHIPS BELL,NO510	22MAY84	EA	70.1300	3	210.39
234000-0124	RECORDER,SONY WM-R2,NO100	22MAY84	EA	89.7400	5	448.70
234000-0178	RECORDER,SONY WA-55,NO110	22MAY84	EA	124.9500	2	249.90
381500-0578	CAMERA,OLYMPUS OM10,NO225	22MAY84	EA	155.5500	5	777.75
381500-0585	FLASH,OLYMPUS T-20,NO226	22MAY84	EA	45.6300	5	228.15
411000-0301	BRACELET,CAMEO, N892	22MAY84	EA	29.7500	3	89.25
411000-0305	EARRINGS,CAMEO, NO906	22MAY84	PR	12.3300	12	147.96
411000-0310	PENDANT,CAMEO, NO902	22MAY84	EA	11.9000	8	88.72
411000-0314	RING,LADIES,CAMEO, NO894	22MAY84	EA	7.0100	5	35.05
411000-0398	RING,MENS,ONYX, NO910	22MAY84	EA	27.2000	9	244.80
412000-0076	WATCH,SEIKO MCG05, NO800	22MAY84	EA	66.3000	4	265.20
412000-0079	WATCH,SEIKO HA191, NO801	22MAY84	EA	70.1300	3	210.39
412000-0084	WATCH,SEIKO MGH01, NO802	22MAY84	EA	40.8000	7	285.60
412000-0087	WATCH,SEIKO DIVER, NO805	22MAY84	EA	74.3800	6	446.28

TOTAL VALUE OF ALL FOREIGN MERCHANDISE:

4008.64

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## VITA

Lieutenant James L. Mitchell was born on 27 January 1954 in Lake Forest, Illinois. He graduated from Rincon High School in Tucson, Arizona, in 1971, and attended the University of Arizona from which he received the degree of Bachelor of Science in Accounting in May 1975. Upon graduation, he reported to Naval Officer Candidate School, and was commissioned an ensign in the U.S. Navy Supply Corps on 27 February 1976. Following six months of training at the Naval Supply Corps School, he served for twenty-seven months as Assistant Supply Officer aboard *USS Lynde McCormick* (DDG 8) homeported in San Diego, California. He was next assigned as Supply Officer for *USS Pegasus* (PHM 1) and the Patrol Combatant Hydrofoil (Missile) Squadron Two, homeported consecutively in San Diego, Little Creek, Virginia, and Key West, Florida. He then served for two years as Supply Officer on the staff of Commander, Mine Group Two in Charleston, South Carolina, until entering the School of Systems and Logistics, Air Force Institute of Technology, in June 1983.

Permanent Address: 840 South Charles Avenue  
Tucson, Arizona 85711



UNCLASSIFIED

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## REPORT DOCUMENTATION PAGE

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19. ABSTRACT (Continue on reverse if necessary and identify by block number)				
<p>Title: DECISION SUPPORT FUNCTIONS FOR THE RETAIL OPERATIONS MANAGEMENT SYSTEM</p> <p>Thesis Advisor: Edward W. Pinion, Lieutenant Commander, SC, USN</p>				
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22a. NAME OF RESPONSIBLE INDIVIDUAL  Edward W. Pinion, LCDR, SC, USN			22b. TELEPHONE NUMBER (Include Area Code) (513) 255-6289	22c. OFFICE SYMBOL  AFIT/LSQ

✓ The Retail Operations Management (ROM) System is an interactive computer program designed to automate the recordskeeping and report generation functions associated with ships stores afloat. This thesis project was an effort to (1) identify decision support functions and other tasks that could be performed by the ROM System; (2) develop algorithms to execute these functions within the constraints of the existing database and operating environment; and (3), document these new features in a format that will facilitate their programming and implementation. The resulting system enhancements include computation of future demand, stock limits, and reorder quantities, and automated preparation of purchase orders, excess stock lists, and comprehensive management reports. These new functions were documented as a Program Specification in compliance with Department of Defense standards, and as formal changes to the Retail Operations Management System Handbook and User's Guide. Incorporation of these functions into the ROM System during the on-going conversion from Wang VS-80 to Zenith Z-100 hardware is recommended. The future impact of point-of-sale inventory control, optical bar code scanning, and electronic funds transfer on shipboard retail operations is discussed.

END

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